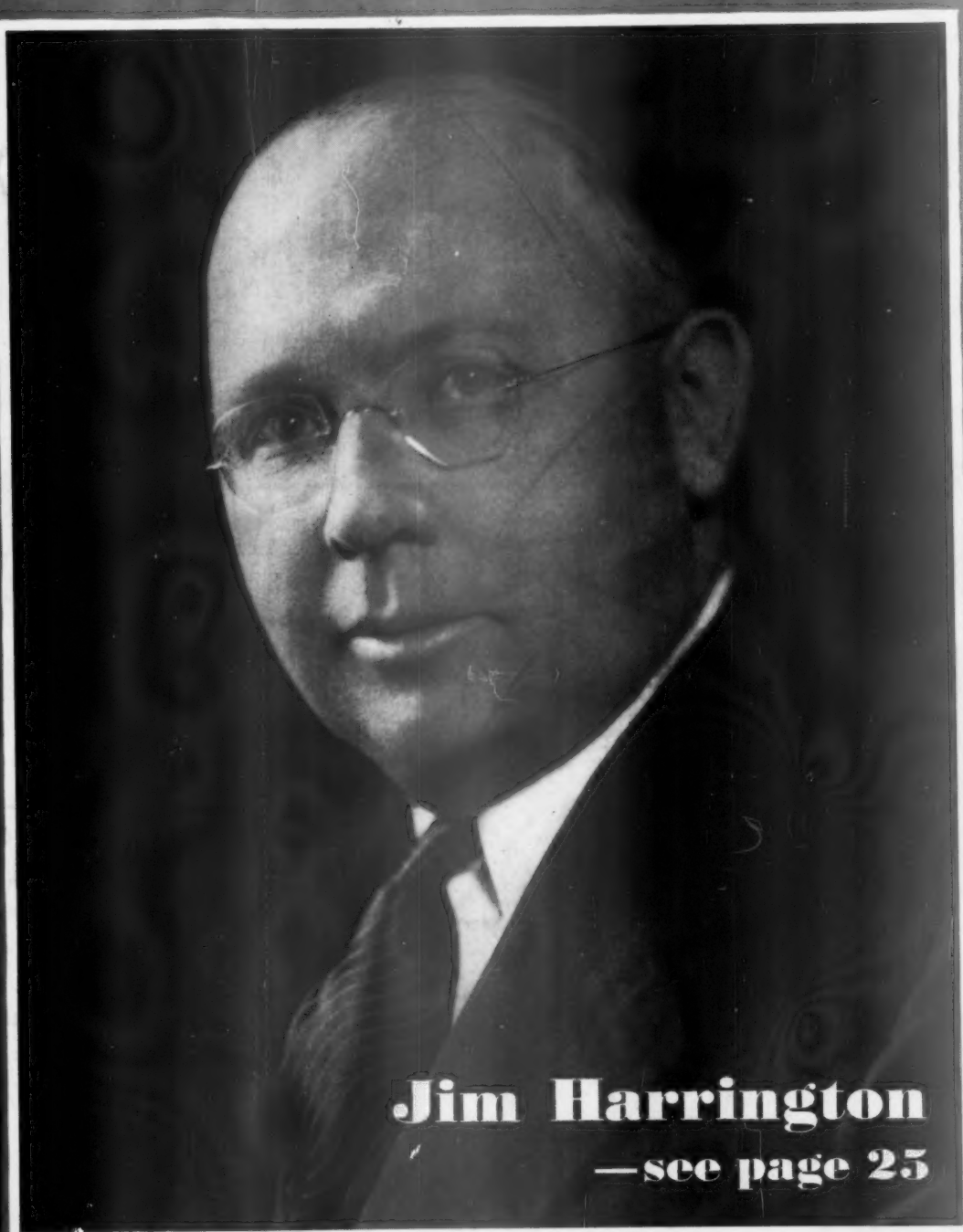


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now

PURCHASING

SINCE 1915 • THE NATIONAL MAGAZINE FOR PURCHASING AGENTS



Jim Harrington
—see page 25

Photo by Bachrach

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JAN-7-39
1939

Vol. VII No. 1-6
27

JANUARY 1939





*How long is
an interview*

On the average, about fifteen minutes, you'd say? No, that's not very long—but multiply it by the number of the products you purchase—and you have an astounding figure representing time spent in interviews.

Republic can help you to save much of that time. Because of the wide line of products manufactured by Republic, its divisions and subsidiaries, a Republic representative can give you facts and information on a multitude of steels and steel products which you now may be buying from a dozen or more sources. Instead of a dozen interviews, you may require only one.

And it is quite possible that you and your company will benefit in other ways. From the standpoints of quality, uniformity and dependability, Republic products are welcomed everywhere by fabricators and consumers. From the standpoint of detail involved, Republic can reduce the number of orders to write, shipments to trace, invoices to check and checks to write. Republic Steel Corporation, Cleveland, Ohio.

PRODUCTS OF REPUBLIC THAT YOU SHOULD KNOW ABOUT

{a few of the A's in the complete list of Republic products}

AGATHON ALLOY STEELS
AGRICULTURAL IMPLEMENT PARTS
AIR CONDITIONING CABINETS
AIRCRAFT STEELS
AIR PREHEATER TUBES
ANGLE BARS
ANNEALED OR HEAT-TREATED PRODUCTS
ANTENNAE, RADIO
ARCH BARS
AUTO BODY SHEETS
AUTOMOTIVE PARTS, PRESSED STEEL
AUTOMOTIVE STEELS

Ask us to send you a complete list of Republic products.

Republic Steel

BERGER MANUFACTURING DIVISION · STEEL AND TUBES INC.
UNION DRAWN STEEL DIVISION · TRUSCON STEEL COMPANY
NILES STEEL PRODUCTS DIVISION



When writing Republic Steel Corp. for further information, please address Department EP



"RUSH TRACTOR BY AIR MAIL"

A typical example of Goodrich development in rubber

THAT'S the wire a Hollywood motion picture company sent an Indianapolis tractor maker. Tractors just can't be sent by air mail but one *was* rushed by express, with an express bill of \$1170.

Why the frantic need, when there are thousands of tractors available nearby, in California? The movie people needed a *fast* tractor that could be built up with steel sheets to take the part of a fast tank in their picture "Army Girl." Nothing but the Marmion-Herrington tractor would do, because its tread is an endless band of rubber—specially developed by Goodrich—enabling it to travel seven times

as fast over rough ground as a tractor with old-style steel treads.

This new kind of tractor was developed for oil country work, road building, and similar industrial uses where speed and abrasion wore out steel tracks in a hurry, and where any speed above a crawl "threw" the steel tracks off their sprockets.

The tractor was literally made possible by its rubber track. The manufacturer had an idea, but only an idea. Goodrich worked with him, and developed a rubber compound able to stand the terrible abrasion and pounding of such service. This was made into a track with cables imbedded in the

rubber to prevent stretching and "throwing" the track.

This is a typical example of the research which goes on constantly at Goodrich—research applied to both new and standard products. It is because of this Goodrich attitude—of applying research constantly to everything—that users of Goodrich belting, hose, tanks, rolls report such long life, low cost, satisfactory service. The B. F. Goodrich Company, Mechanical Rubber Goods Division, Akron, Ohio.

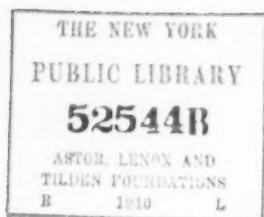
Goodrich
ALL *products* *problems* IN RUBBER

PURCHASING

Established 1915 as "The Purchasing Agent"
Consolidated with "The Executive Purchaser"

PURCHASING is an independent journal, not the official organ of any association. It is the only publication of national scope devoted exclusively to the interests and problems of the purchasing executive in industry and government.

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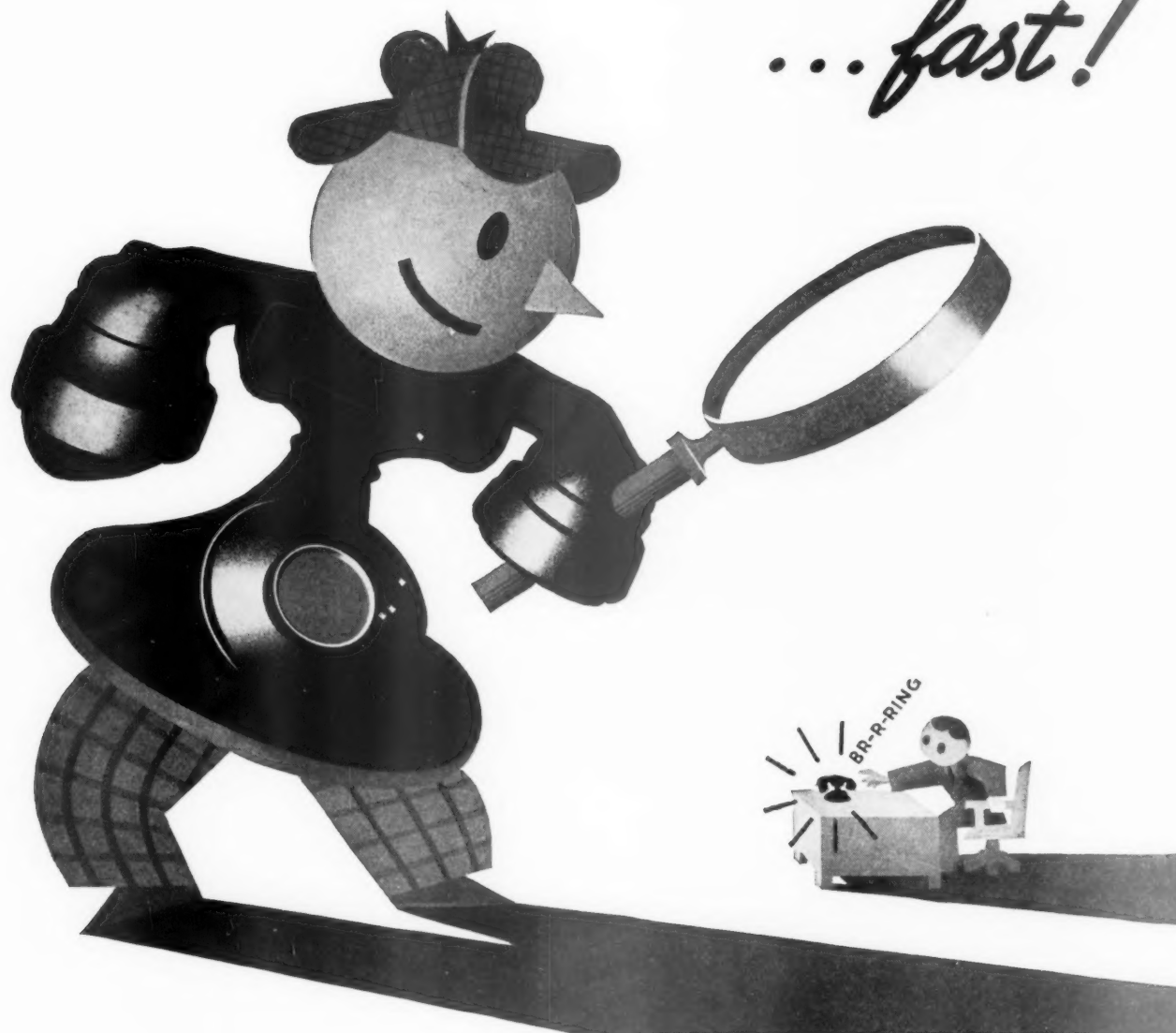
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PAGE 2

PURCHASING

LONG DISTANCE FINDS 'EM

...fast!



YOUR FRIENDS, and the people you do business with, may be scattered from coast to coast. But in one minute and a half (average time) Long Distance can ring the telephone of almost any one of them.

It is easy to forget the wonder of familiar things like Long Distance telephone service. Every day it saves miles, minutes, money, for all kinds of business. It multiplies man-power. It gets things done. And as the rate table at the right will remind you, it costs little in proportion to the BIG job it does.



HERE'S HOW LITTLE LONG DISTANCE COSTS:

BETWEEN THESE POINTS	Day Rates (except Sunday)	
	Station-to-Station★	Person-to-Person★
Detroit, Mich. . Cleveland, Ohio .	\$.50	\$.70
Kansas City, Mo. Omaha, Neb. . .	.75	1.05
Philadelphia, Pa. Boston, Mass. .	1.00	1.35
Milwaukee, Wis. Pittsburgh, Pa. .	1.50	2.00
Atlanta, Ga. . . Kansas City, Mo.	2.00	2.65
Seattle, Wash. . Denver, Colo. .	3.00	4.00
Newark, N. J. . Fort Worth, Texas	4.00	5.25
Portland, Ore. . Memphis, Tenn. .	5.00	6.75
New York, N. Y. San Francisco .	6.50	8.75

★ For 3 minutes. These rates are greatly reduced after 7 every evening and all day Sunday.

Yours on Request

Purchasing agents will find it well worth their while to read the publications reviewed on this and the following pages. From among the many submitted to us, they have been selected by the editors as having greatest interest and utility value to purchasing agents.

To obtain copies, simply fill in and mail coupon at the bottom of this page.

488. "Helpful Hints on Sealing Methods," a new folder just issued by Moore & Thompson Div. Hudson Pulp & Paper Corp., offers valuable pointers and suggestions on the proper use of gummed paper tape, with a view to better protection of packages and saving through avoiding waste.

524. The new 60-page wire-bound catalog released by Rhode Island Tool Co. includes detailed tables showing dimensions and prices for its complete line of bolts, nuts, screws and studs of many types. Numerous special tables show decimal equivalents, U. S. standard threads, pitch diameter and tolerances of threads, weights of steel, etc.

530. In 20 large, easy-to-read, well illustrated pages, 11" x 12 1/2", Hygrade Sylvania Lamp Co. outlines the "Hygrade Proposition to Lamp Buyers," in which 6 major questions of concern to lamp buyers are answered in detail. The questions cover the history, growth and financial standing of the company, operating policies, the product, research, service facilities, saving in cost. A complete schedule of prices is included.

541. In easy-to-find indexed form the Scully Steel Products Co. presents a heap of information of value to all buyers of steel via its new, comprehensive Stock List and Reference Book, which gives a long list of Scully Products, such as sheets, bars, angles, wire, stainless, eaves trough, copper and brass. Also contains many handy reference tables including standard gauges, length of rivets necessary for various grips, weights of steel circles, circumferences and areas, U. S. gallons in round tanks, U. S. gallons in rectangular tanks, etc.

550. Containing 66 pages, the new Operators Handbook on truck, bus and farm and industrial tractors, just published by B. F. Goodrich Co., features a table on the effect of load and speed on tire service, with percentages of recommended maximum loads at maximum sustained speeds to obtain normal tire service. Among the subjects discussed are: how to prevent truck tire failures, including the heat-speed problem; development of the new Goodrich Hi-Flex tire cord and its relation to the heat-speed problem; methods of correctly calculating truck tire costs; load analysis, load and service diagrams, load ratios and inflation pressures; specifications and data for tires for all commercial uses.

551. "Facts About Shipping Boxes," a handsomely and profusely illustrated booklet issued by Hinde & Dauch Paper Co., features a "check list" for buyers, enabling them to use facts as a yardstick in measuring factors that determine shipping box quality. The factors included in the "check list" are: raw materials, super-processing, engineering research, designing facilities, factory locations, service, each of which are discussed individually.

552. Three new, interesting folders are announced by C. Howard Hunt Pen Co. The first describes the new BOSTON Silver Comet pencil sharpener, which incorporates a number of worthwhile improvements. The others, of interest to your drafting and engineering departments are, "Speedball Lettering and Drawing Pens with Alphabet Demonstrations" and "Principles of Pen Drawing."

580. Catalog No. 39 of the U. S. Leather Products Co. presents a complete line of hand luggage, leather goods, fitted cases, utility cases, brief cases in standard and zipper models and in a variety of styles for business, school and professional use. The merchandising plan provides for individual purchases by employees through purchasing departments where the catalog is on file. 20 pages, 9" x 12", the catalog is completely and colorfully illustrated.

586. A new line of oil and chip brushes is illustrated in a folder issued by the Torrington Brush Works. Used to apply lubricant to a cutter or drill, or for dusting out chips and getting into narrow spaces, these items are particularly convenient in machine shops.

590. A new Tap Data Booklet issued by The Winter Brothers Co., presents in convenient form (pocket size, 28 pages) a variety of practical and useful information for the user of threading tools. The principles and suggestions included represent the cumulative experience of more than a third of a century of practical tapping and tap making, and are calculated to enable the user to obtain greater production and more satisfactory results on his tapping jobs. In line with the essentially informative nature of the booklet, a minimum of space is devoted to advertising.

597. The new KIMPAK portfolio prepared by Kimberly-Clark Corp. presents actual samples of this light and resilient crepe wadding material in a range of thicknesses from single sheet to 20 ply, standard and backed with a tough sheet of kraft. The distinctive features—soft, snowy whiteness that lends an air of rich luxury to the merchandise packed in it, as well as its outstanding protective qualities—are readily visualized, and a number of representative photographs show its use in connection with fragile toiletries, highly polished surfaces, fine furniture, and other types of products.

599. The latest catalog of the National Meter Co. descriptive of Empire oscillating piston meters, consists of three sections collated in a 9" x 12" wire ring binder. The first section explains in general the design and construction of the equipment, while the second and third sections deal with specific applications in industrial and refinery service and for bulk station and tank truck service. Complete but concise, the catalog embraces all essential features of the Empire meter, specification tables, photographs of the various models, and diagrams of typical installations; also accessories such as strainers, sediment traps, air release and back pressure valves.

600. A new wire rope catalog, devoted particularly to the mining and contracting industries, is the latest publication of the Broderick & Bascom Rope Co. More than a conventional price list, the 96-page pocket size booklet also has many pages of data as to stresses in suspended cables, hoist and incline ropes; specific recommendations as to grades and constructions of rope for various types of power shovels, cranes and similar equipment; and a section concerning the causes which necessitate the premature discard of rope.

601. Worthington rotary pumps for cargo unloading from barge or tanker are shown in a new illustrated folder. The equipment is available in capacities from 500 to 5,000 g.p.m., and can be used with pressures up to 150 lbs. per sq. in. and viscosities up to 500,000 s.s.u., making it adaptable to fresh or salt water, fuel oils, lubricating oils, light and heavy crudes, gasolines, kerosene, sugar syrups, black strap molasses, caustic solutions, vegetable oils and similar products.

(Additional listings on pages 6 and 8)

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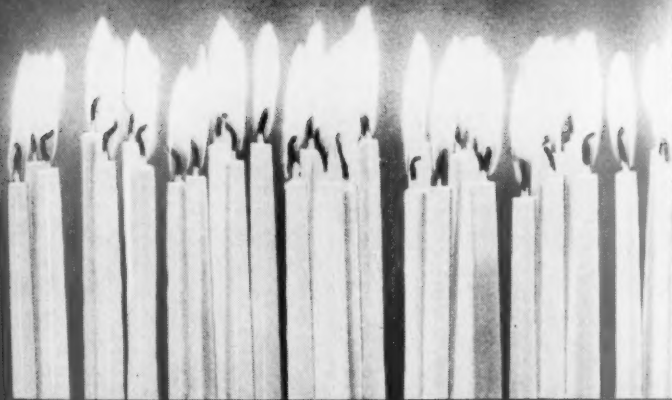
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PAGE 4

PURCHASING

70th ANNIVERSARY



GRAY & BARTON



IN 1869
GRAY & BARTON



IN 1939
GraybaR



OFFICES IN 83 PRINCIPAL CITIES FROM COAST TO COAST

JANUARY 1939

PAGE 5

Yours on Request

Purchasing agents will find it well worth their while to read the publications reviewed on this and the following pages. From among the many submitted to us, they have been selected by the editors as having greatest interest and utility value to purchasing agents.

To obtain copies, simply fill in and mail coupon at the bottom of this page.

602. "A New Idea in Record Storage" is the topic of Bulletin 400-P, issued by the DeLuxe Metal Furniture Co. The folder describes and illustrates many variations of this system, consisting of specially designed steel boxes for all types and sizes of records, housed on adjustable steel shelving. The plan is 100% flexible, for small units or in ceiling-height installations and may easily be expanded to keep pace with the increase of records. It embodies the essential features of modern office filing, and is economical of space, with all records ready for instant reference.

603. Repair clamps and saddles for steel and cast iron pipe are described and illustrated in Catalog No. 38A of the M. B. Skinner Co. These devices are designed to effect permanent repairs on steam, hot or cold water, gas, oil, ammonia or brine lines. A striking table in the front of this practical 32-page booklet cites the astounding losses per hour and per month resulting from small leaks in such lines.

604. A three-part catalog of "Gas Burning Equipment," conveniently bound together for standard filing purposes, has just been issued by the Hauck Mfg. Co. Cat. No. 802 covers low pressure air induction mixers for the constant proportioning of air and gas. Cat. No. 803 covers high pressure gas inspirators with streamlines air flow. And Cat. No. 804 covers "Retain-A-Flame" and "Sealed-In" gas burner nozzles, designed for greater capacity range and flame length, with a minimum of combustion noise.

605. The Metallizing Engineering Co. is offering two new bulletins. No. P-10 describes the metallizing process, by which metal wire is melted and sprayed out in the form of finely divided molten particles that are deposited on a surface to be coated, forming a strong mechanical bond without fusion with the base metal. It is widely used for maintenance, salvage, production, corrosion resistance, and decorative applications. Bulletin 37 describes the Metco metallizing gun, a quality production tool using a combination of compressed air, oxygen and acetylene for coating with aluminum, babbitt, brass, bronze, cadmium, copper, lead, monel, nickel, stainless and carbon steels, tin, or zinc.

606. The C. O. Bartlett & Snow Co. announces its new Bulletin No. 83—Boiler Plant Coal Handling Equipment. The first pages of this 48-page catalog describe central station equipment, with operating views of standard and special designs of large capacity hoppers, feeders, belt conveyors, bunkers, galleries, and skip hoists adapted to use in plants where ground space is limited. The balance of the book describes standardized equipment for plants from 1,000 to 5,000 h.p., including equipment layouts, etc., designed to provide the maximum amount of coal handling facilities for the most economical expenditure.

607. An exceptionally attractive catalog of the Herman Nelson Corp. is devoted to the new Propeller-Fan Type Hifet Heater. Designed for ceiling installation, this heater leaves all floor and wall space free for profitable use, and has added efficiency by projecting the warm air downward with sufficient velocity to break up cold air strata at the floor line. Besides providing comfortable working temperatures in the working zone, the equipment is adapted to many manufacturing problems such as drying textiles, leather, papers, paints, lacquers, wood, etc., preventing condensation, dissipating fog, diluting noxious gases, and maintaining uniform air conditions. It may be used on various types of heating systems including vapor, vacuum, hot water, and high pressure steam systems up to 125 pounds. The 36-page catalog gives complete information, capacity tables, diagrams for location, wiring and piping.

608. Illustrating the philosophy that an industry can best serve its employees, its stockholders, the users of its products, and society in general, only through continuing a well organized program of research, the Crane Co. has issued a handsomely illustrated 48-page book, with plastic spiral binding, describing its new research laboratories, occupying 86,000 square feet of floor space and employing a staff of 285 persons. The wide range of subjects that are under constant study is indicated by the variety of special departments, including metallurgy, welding, radiography, industrial products, ceramics, sanitation and hydraulics, heating and air conditioning, basic sciences, photography, design and development.

609. Devoted exclusively to Visible Record Equipment is a new catalog issued by the C. E. Sheppard Co. In its 40 pages, 8 1/2" x 11", are illustrated both automatic shift and non-shift types of binders, and a wide range of new stock forms—for accounts receivable and payable, purchase, inventory and stock keeping, prospect and sales records, personnel and payroll records, and the like.

610. Circular No. 505 of the Wright Austin Company introduces the new neon illuminator, installed behind a gauge glass and utilizing the penetrating power of neon beams in such a way that the water level stands out vividly and distinctly for easy and accurate reading up to distances of 150 feet or more, day or night.

611. Attractively prepared and lavishly illustrated is a new 12-page brochure setting forth the plant facilities of the Chicago Hardware Foundry Co., including iron and brass foundries, annealing and normalizing of castings, machine and pattern shops, porcelain enameling, plating, japanning, painting and lacquering.

612. A new and completely revised Catalog No. 212 has been issued by the American Foundry Equipment Co. It covers Wheelabrator Tum-Blast abrasive blasting equipment, including the new small size with an operating load capacity of 2 cubic feet, specially designed for cleaning small metal products weighing up to 5 pounds per piece. The new catalog contains 36 pages and numerous illustrations showing construction features and operating details, as well as typical installations.

613. Exceptionally attractive and informative is the new catalog and data book of the Parker-Kalon Corp., presenting a comprehensive line of self-tapping screws, patch bolts and repair plugs, metallic drive screws, welding studs, masonry nails, screw nails, wing and cap nuts, thumb and socket screws and related items, including both the standard slotted head and the Phillips recessed head design. 68 pages, 8 3/4" x 11 1/4", loose leaf style with spiral binding, the entire catalog is printed in two colors, with a wealth of diagrammatic and photographic illustration which makes for complete clarity; conveniently arranged and indexed. Tables of dimensions and weights, and recommended operating data are also included.

(Additional listings on pages 4 and 8)

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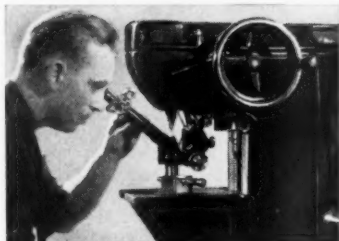
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300,000 OPERATIONS AND STILL IN GOOD WORKING CONDITION

This veteran served five years on a heat recovery line, being partially opened and closed every four minutes seven hours a day for five years—exceptional service even from a valve of exceptional quality. A tribute to the practical applications of Crane research.



"...to unearth new facts"

Recently, the newly completed Crane Research Laboratories, housing the largest and best equipped research facilities in the industry, were opened to public view. In the foreword of a booklet published on this occasion, President Charles B. Nolte says:

"Research is misunderstood by a great many people, but in its simplest form it may be defined as an organized and diligent application of existing knowledge to unearth new facts. . . . Crane Co., therefore, is dedicated to the philosophy that only through continuing a well-organized program of research can it best serve its employees, its stockholders, the users of its products, and society in general."

TRANSLATING RESEARCH INTO DOLLARS FOR YOU

Crane research has as its objective the saving of dollars in your plant operation—the improvement of those valves and fittings whose responsibility it is to control all phases of flow.

Research in design and in new alloys has resulted in multiplying the life of valve stems—this improvement translated into longer life means dollars for you. Valve seats have greater resistance to erosion and corrosion because of research—and again research cuts your costs—saves you money.

Alloys have been developed capable of withstanding the searing cold

or 150 degrees below zero—the scorching heat of 1300 degrees above, opening up new fields for you in the handling of liquids or gases at greater ranges in temperature. And in welding new alloys, Crane research has developed new techniques that make their use practical. Again this means increased production—more dollars in profit for you.

But research does not stop with these spectacular achievements . . . it also provides an accurate control of manufacture that guarantees the uniform, high quality of the valves and fittings you buy from Crane.

CRANE

CRANE CO., GENERAL OFFICES
836 S. MICHIGAN AVE., CHICAGO
VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

NATION-WIDE SERVICE THROUGH BRANCHES AND WHOLESALERS IN ALL MARKETS

Yours on Request

Purchasing agents will find it well worth their while to read the publications reviewed on this and the preceding pages. From among the many submitted to us, they have been selected by the editors as having greatest interest and utility value to purchasing agents.

To obtain copies, simply fill in and mail coupon at the bottom of this page.

614. A new folder of the Lee Spring Co. describes a conveyor screw consisting of a steel band, wound edgewise and pitched to form a helix. In operation, a shaft is inserted through the center, and the screw is welded in place. Convenient in installation, the screw can be cut to any desired length and welded to any shaft. Accurate as to pitch within very narrow limits, the equipment promotes uniform delivery of material, and offers maximum volume of delivery for maximum weight because of the smaller shaft diameter and the absence of fillets. This product eliminates the necessity of pattern making, molding and snagging, thus affording a saving of both time and expense. Available in low carbon or 16-18% chrome steel.

615. "Profit with Paasche Air Painting Equipment" is the inviting title of Catalog FB of the Paasche Airbrush Co., a 48-page book offering a very comprehensive line of air-finishing equipment, designed and engineered to meet the production requirements of industry, and covering the finishing process from rubbing, sanding and polishing to the application of the finishing material. The line includes a complete complement of accessories, such as striping units and nibs, turntables, booths, ventilators, pressure feed tanks, goggles and respirators. Every item is illustrated and described in detail, and special features of design and operation are indicated.

616. Royalchrome distinctive metal furniture for office, reception room, stores restaurants and public buildings, and for the home, is illustrated and described in the handsome and colorful 1939 catalog of the Royal Metal Mfg. Co. Exceedingly modern, in keeping with the company's policy of being "a year ahead in style, design and utility" the chairs, stools, desks, tables and other pieces represent interesting and practical use of modern materials and finishes in attractive applications. The 72-page book is profusely illustrated, featuring several group installations in natural color.

617. A new 20-page catalog of unit heaters has been issued by the Trane Co., showing equipment adapted for various conditions in factories, warehouses, foundries, shops, storerooms, garages, shipping rooms, breweries and distilleries, offices, laboratories, corridors, lobbies, gymnasiums, auditoriums, greenhouses, hangars, markets, etc. It includes a section devoted to the temperature control and fuel economy made possible by such installations.

618. Three new folders issued by the Victor L. Phillips Co. are devoted to (1) Dri #1 integral waterproofing compound, which makes concrete, stucco, plaster and mortar waterproof for the life of the material; (2) Perma Seal, a permanent floor treatment for wood, masonite and terrazzo; and (3) Perma Bond, a Portland cement base paint for exterior and interior surfaces of masonry, insulation board and metal.

619. Bulletin No. 54 of the Hisey-Wolf Machine Co. describes a new line of Economy grinders and buffers, offered in 13 different models from 3/4 to 5 h.p. capacity. Specifications and data are included for each of the new models.

620. "When, Why and How to Grind Threads" is the title of a useful and informative 16-page pocket-size manual prepared by the Detroit Tap and Tool Co. It covers lead and feed screws, worms, aircraft engine parts, transmissions and spindles, studs, threaded cores, projectors and cameras, electric ironers, as well as general considerations.

621. A handsome new 28-page book on Ryerson Certified Steels pictorially explains why every one of the steel and allied products carried in Ryerson stock can be depended on to represent the highest quality in each particular class and type of material. The special certified Alloy plan is explained in detail, showing how heat-treating costs can be substantially reduced while producing more uniform and more dependable results. Included is a digest of standard and special alloys, along with general hints on heat-treating.

622. The Flexible Metal Hose & Tubing Institute is now distributing a new booklet entitled "The Fact Book of Flexible Metal Hose and Tubing," which includes a complete factual story of these important products and graphically portrays their almost unlimited usefulness in meeting many of industry's most difficult problems of design, construction and maintenance in connection with the handling of steam, gases, hot or cold liquids, and certain solid or semi-solid materials. Profusely illustrated with photographs of actual uses and installations, the booklet also shows principal types and forms of flexible metal tubing, the underlying engineering principles, and unique performance characteristics.

623. Perforated metal baskets in a wide variety of shapes, sizes, and design, are shown in the new industrial catalog of the Carpenter Metal Products Co. It includes such diversified items as waste containers; cleaning and dipping baskets, drying trays, storage and tote baskets; anode racks, bath house baskets; sterilization units; incubator drawers, and the like.

624. The Crucible Steel Co. of America is distributing a folder which introduces the new AIRKOOL die steel, developed to meet the challenge of industry for a steel intermediate between the high carbon high chromium and the oil hardening types in performance. The new steel is air hardening, non-deforming, wear resisting, easily machined, and has an extra-wide hardening range. It is specially adapted for blanking, forming, trimming, and drawing dies, and punches.

625. A handy directory of manufacturers of shipping room supplies, including such items as gummed tape, sealing devices, corrugated cartons, stencil machines and stencil board, brushes, boxes, staples and stapling machines, labels, etc., is published as part of Leonard's Guide, "The Shipper's Cyclopedic." The publishers are now offering to send this directory section free to purchasing agents who request it before January 31. The directory contains the names and addresses of manufacturers, arranged alphabetically under the name of their product for easy reference.

626. Ambition of every industry is control of quality and cost with automatic precision. Bulletin 385 of the Buffalo Scale Co. presents as a solution—batching by weight, successfully used in more than a score of industries, ranging from gravel to pharmaceuticals, confectionery to fertilizers. The line of batching scales includes models for manual operation, automatic control of flow and cut-off, and with electric eye control, also a portable model with roller conveyor for easy handling of heavy batching tubs.

(Additional listings on pages 4 and 6)

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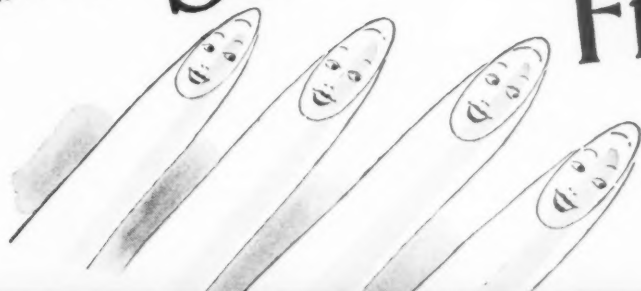
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City: State:

PAGE 8

PURCHASING

Perhaps You've never heard of—Smiling Finger Tips!



"Well if my fingers could talk they'd tell you something about Underwood TOUCH!"



Underwood offers a choice of three typewriters—the standard, the Noiseless and the new Master. The Master offers Dual "Touch Tuning", Champion Keyboard and the new Sealed Action Frame, providing quieter operation and greater protection against dust.

"TOUCH" gives the secretary an easier typing day; gives the executive increased typing production, finer, cleaner-cut typemanship and protects him against those late afternoon errors that come from typing fatigue.

Typists prefer the "touch" of the new Underwood Master because years ago

Underwood discovered that "touch" was as *individual* as a thumb print and then *did* something about it.

Thus, on the Underwood Master each of the forty-two keys is *individually* tuned to the finger tips of the typist . . . adjusted to her *individual* typing habits.

And then, as an added feature, the typist can control the tension of *all* keys at will from the keyboard by the mere flick of a finger.

Besides Underwoods always stand up . . . never take too much time out for repairs. For a free trial telephone the nearest Underwood Branch.

Typewriter Division • UNDERWOOD ELLIOTT FISHER COMPANY • Typewriters . . . Accounting Machines Adding Machines . . . Carbon Paper . . . Ribbons and other Supplies One Park Ave., New York, N.Y. • Sales and Service Everywhere Underwood Elliott Fisher Speeds the World's Business Copyright 1939, Underwood Elliott Fisher Company



THE NEW **Underwood Master** TYPEWRITER



H O N E S T W E I G H T !

**For Honest Weight in STERILIZED—SPECIFICATION—
WIPING CLOTHS—
DEMAND THE SANITARY INSTITUTE LABEL!**

**THIS ADVERTISEMENT SPONSORED BY THE FOLLOWING MEMBERS OF
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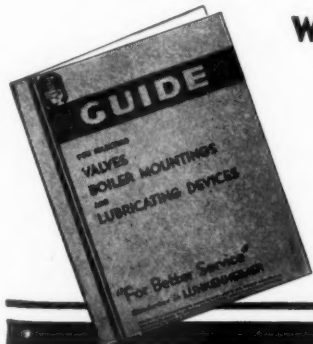
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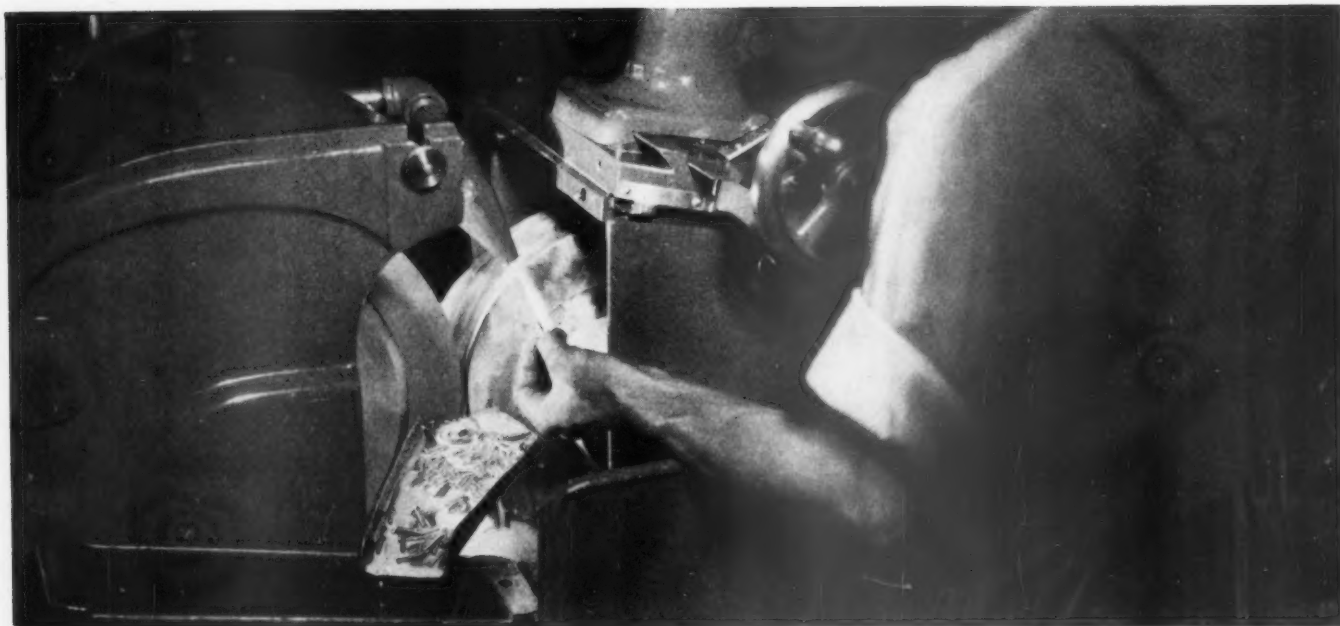
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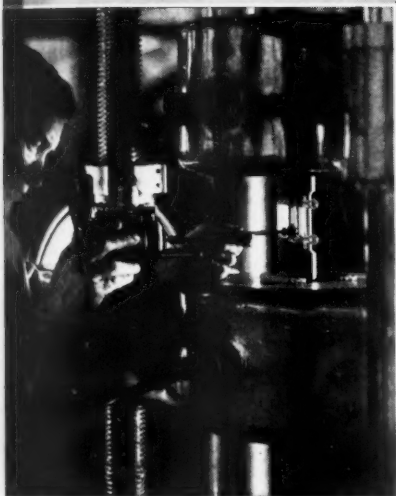
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SKILL—PRECISION. They are not accidental, but come as the result of years of hard-earned experience. Our reputation for making wire of high quality has been built through more than a century of wire making experience.

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to put **QUALITY** in Wire

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F. O. B.

(Filosofy of Buying)

UNIQUE AMONG THE MANY attractive and highly personalized Christmas greetings that Jim Farley's hard working staff of mail toters brought to F.O.B. from purchasing friends was the "Christmas Extra" edition of *The Corcoran Courier*, appropriately circulated by T. A. Corcoran, P. A. for *The Courier-Journal* and *Louisville Times*. A newspaper in miniature, the four-page issue is complete with interviews in which the four Corcorans individually express a healthy seasonal optimism, an editorial plea for Bigger and Better Christmases, an advertising section featuring an end-of-year clearance sale of 1938 disappointments to make room for a brand new stock of good cheer, and a picture page reviewing the highlights of '38. Dear Editor: We are heartily in accord with your program. May '39 live up to your genial predictions and hopes. Yours for more frequent editions of the *Courier*.—F.O.B.

PURCHASING MEN are notoriously poor self-advertisers. Consequently we got an extra jolt to find at the head of the official stationery of the Central Board of Purchases, City of Milwaukee, where Joe Nicholson holds forth, this boldly printed slogan: "*The City of Greater Tax Dollar Mileage*." The idea may not be universally applicable, but it certainly has merit.

THE PROGNOSTICATORS HAVE rarely been so unanimous as they are in predicting a substantial upswing in business for the year ahead. The only hedging we have noticed among the cheerful prophets was the case of one expert who, after promising a 30% increase in residential construction and pausing to read his

copy, adds the remark, "I am amazed at my own conservatism."

And when you see in the headlines that "N.A.P.A. Urges Caution," don't be fooled into believing that buyers are to be caught napping, for the chances are that they knew it all the time. Industrial records over the past several years show that they are generally a step or two ahead of history. Most P. A's must have been good Boy Scouts, whose motto, you will recall, is "Be Prepared."

BY SPECIAL REQUEST, we reprint herewith one of the classic definitions that every P. A. should have in the old scrap book:

An engineer is said to be a man who knows a great deal about a very little, and who goes along knowing more and more about less and less until finally he knows practically everything about nothing.

A salesman, on the other hand, is a man who knows a very little about a great deal, and keeps knowing less and less about more and more until he knows practically nothing about everything.

A purchasing agent starts out knowing practically everything about everything, but ends up knowing practically nothing about anything, due to his association with engineers and salesmen.

JOHN L. STEWART, P. A. for Santa Barbara County, California, blinked and looked again when he was handed a requisition for Amino-dimethylanilinemonohydrochloride. But like a good P. A., he traced the 37-letter item to its lair and got delivery. It isn't listed in the Handbook of Commodity Data Sheets, but in case you are in-

terested, it's a chemical used in the development of X-rays, and can be secured from the Eastman Kodak Company. A local journalist, reporting the incident, ventures the opinion that perhaps the word itself got overdeveloped.

TECHNICALITIES HAUNT THE WAY of the harrassed public buyer. City Solicitor Darlington Hoopes of Reading, Penna., was called upon to make two rulings on a single opening of bids last month calling for the construction of an observation tower and band shell in the city parks. P. A. Raymond Kiebach looked at his faithful watch and locked his door on the dot of nine, deadline for the acceptance of proposals. Thirty seconds later a breathless bidder appeared and loudly protested that the watch was wrong. An official delegation repaired to the fire alarm room and checked the timepiece with official observatory time. It was 45 seconds fast. The bid was admitted, and carried off the contract. But at 9:07 appeared another bidder, complaining that the fire alarm had sounded just as he was on his way to City Hall and that all traffic lights had gone red for a period of three minutes so that he could not proceed. The fire, he claimed, was an act of God, and the traffic interruption an act of the city he sought to serve. Solicitor Hoopes checked up on the facts and found them as reported, but declined to accept the complainant's interpretation. The bid was high anyhow.

Now that the P. A. is relieved—for twelve months, at least—of the ethical problem of Christmas gifts, he immediately faces the delicate task of handling all those informal requisitions for his advertising calendars, many with very exact specifications as to size, legibility, artistic merit, and the like. Oh, well, it all helps to keep the job interesting.

304° BELOW ZERO

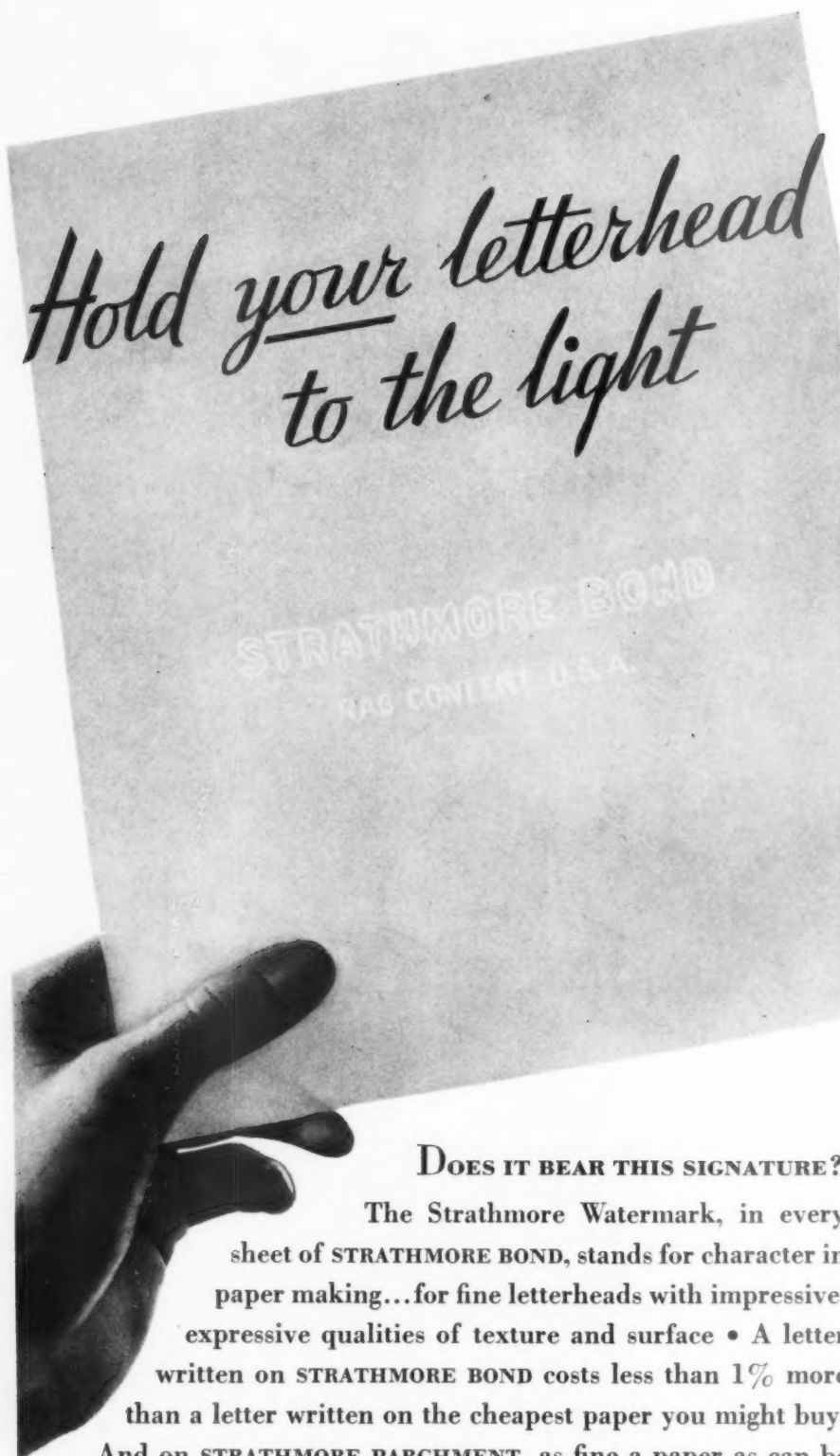
THESE TWO TANKS illustrate one good reason why General Electric MAZDA lamps give more light this year.

The tanks contain argon, the inert gas used to help make G-E bulbs stay brighter longer. The drier the argon, the more efficient the lamp. Moisture in the argon is frozen out with liquid air at a temperature of -304° F. This year's G-E MAZDA lamps give more light because they contain a higher percentage of this argon.

This process is only one link in the chain of General Electric research and development that is making each year's G-E lamps give more light for the current consumed. General Electric Co., Nela Park, Cleveland, O.



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Mr. Arnold's Plans for Business

MR. THURMAN ARNOLD, able and energetic Assistant Attorney General in charge of the anti-trust division of the Department of Justice, has a proper desire to get that division functioning more effectively, to clarify the laws and establish a consistent policy, and to revise legislation in line with a realistic conception of modern large scale industrial organization. Business is whole-heartedly in accord with such a program. Unfortunately, Mr. Arnold's economic reasoning is not so clear, and when he goes on to ask for wide powers of control over price policies to "insure the moral existence" of a competitive economy, business properly shows concern over the program that he may have in contemplation.

True, he concedes that the majority of business men are well-intentioned, and is earnest in protesting that anti-trust litigation should not be conceived as a moral assault upon wicked individuals. Nevertheless he seeks to impose upon the business community certain principles and objectives which many will deem quite outside the realm of morality and of very doubtful economic soundness.

He urges greater industrial production, assuming that economies in costs will justify a substantially lower price level and that this in turn will immediately create the necessary demand to absorb that production. Business also desires a higher operating rate. If that in itself were a practicable solution, it would not require legislation to put it into effect. But as a matter of fact there are many limitations to this reasoning.

One of these is that manufacturing economies due to volume production cease to accrue after a certain point has been reached. Mr. Patman's campaign against the chain stores is predicated in large part upon the economic fallacy of long quantity discounts, and recent wage and tax legislation, however admirable, has greatly reduced what flexibility may have existed. Morality and good business sense dictate the use of legitimate economies to expand distribution, but an arbitrary low price policy in the dubious hope of recouping through possible volume may prove to be a disastrous management policy.

The law of supply and demand, which is the basis of the competitive system, is no simple slide rule that will reach a balanced solution at any given point. It merely states that at a certain price level, so many consumers will be willing (and able) to buy, and so many producers will be willing (and able) to sell. Low price rules out production as it brings in new demand, and that rules out employment and income. Profitable production may shrink much faster than demand expands on a price reduction. The staggering sums required for agricultural relief where this elementary principle has not been observed, are a case in point.

Mr. Arnold is a member of the National Economic Committee, which is first of all a fact finding and planning organization. Its success in coping with our major industrial problem is dependent primarily on its open-mindedness and freedom from preconceptions of economic theory and business morality. Business is not altogether bound by tradition; it can be sold on a plan that will promise greater workability than the present regime. Mr. Arnold's is an influential and persuasive voice on any committee. We commend his zeal as an officer of the Department of Justice. We hope that as an economist he will follow the scientific method of deducing principles from the facts rather than the legal method of shaping the evidence to support a charge.

STUART F. HEINRITZ, EDITOR

Buy the Right Ropes

RUSSELL B. WILLIAMS

IT MAY SEEM HARD to understand why a few wires, one way or another, make all the difference in the world in the way a wire rope performs. But it's just in the nature of the animal to be that way—and rope users who have an eye to costs are paying a lot of attention to the matter of buying ropes correctly.

Almost any rope, if it has sufficient breaking strength, will give some sort of service on almost any type of work. But the really fine results come only when the right rope is used. Much depends, of course, on the manner of use—but much also depends on proper rope selection.

This job of selecting a rope appears more difficult than it really is. For every grade and construction of rope was developed to meet specific needs, not merely to introduce variety. Every machine using wire rope can be made to operate to best advantage if it is reeved with just the kind of rope that "belongs" on that machine.

Perhaps a brief discussion of some of the wire ropes in common use may help to show the possibilities of the various grades and constructions now available.

Most ropes are made with six strands. This number of strands has been found most suitable for supplying the operating characteristics required in the majority of cases. A six-strand rope, to begin with, has sufficient pliability and "roundness" to satisfy most requirements. It contacts a sheave groove with enough of its outer surface to afford a good bearing for the rope and to assure that enough points of contact will be provided to prevent abrasive action from being too concentrated on any exposed rope surfaces. Increasing the number of strands has the effect of increasing the "roundness" of the rope, of adding to the amount of metal that bears on any sheave or drum groove over which the rope runs.

In general, an increase in the number of strands produces an increase in the amount of rope surface contacting a sheave or drum groove. At the same time an increase of the number of strands reduces wire sizes and diminishes the metallic cross-section of the rope, thus decreasing strength.

Metallic Areas

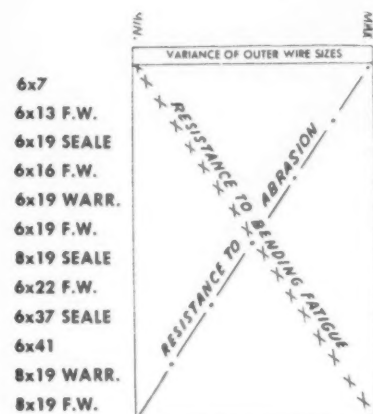
Among the six-strand ropes the 6 x 19 Filler Wire construction presents the greatest amount of metallic area. Next in order are the 6 x 19 Warrington, the 6 x 19 Seale, 6 x 7 and the 6 x 37. The strengths of these ropes vary, of course, in the same order.

An important advantage contributed by the greater "latitude" of the preformed rope is that it permits employment of the usually more durable six-strand

construction in cases in which it would otherwise be necessary to employ ropes lacking the substantial advantages of the six-strand rope.

Factors of Use

In considering rope constructions it must be borne in mind that no factor of use can be provided for to the exclusion of consideration of other factors. When there is present a severe abrasive condition there may also be other conditions requiring special rope qualities. These varying conditions of use are all taken into consideration in the mill recommendations furnished to rope users. Strict adherence to these recommendations will assure the user that he is providing properly for every feature of the job on which rope is used.



Relative service factors as found in several of the more commonly used constructions of wire rope

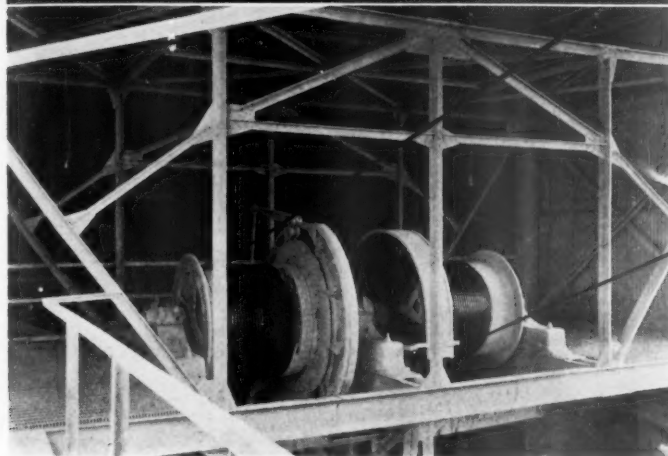
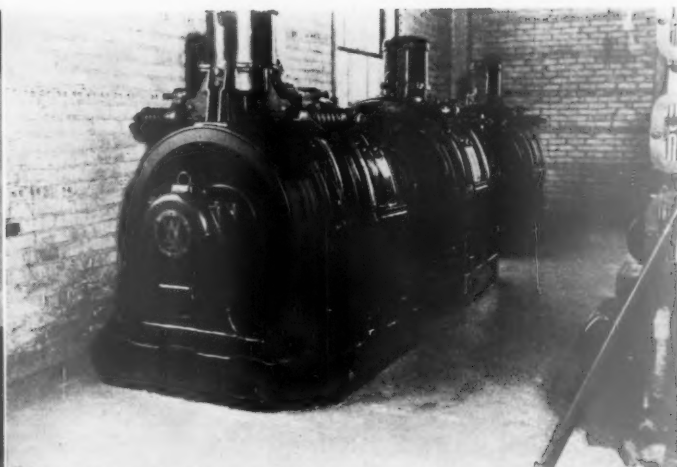
It may be helpful to prelude a general discussion of the advantages and limitations of the various rope constructions with a brief statement of the more general characteristics of a number of "common" constructions with respect to their general efficiencies in meeting the conditions that usually most influence the service life of rope. Such a statement is contained in the accompanying graph.

The "Average" Rope

A fact that stands out clearly from this graph is that the best rope for a desired balance between resistance to abrasion and bending fatigue is obtained by the use of the 6 x 19 Filler Wire. For this reason we may say that this rope is pretty much the average of all the ropes in more common use.

Considering the various common constructions of wire rope in general use we may say that their characteristics are as follows:

6 x 19 Warrington: In a Warrington rope wires of four sizes are used. The principal application of the



Varying conditions of use call for various types of rope

rope is for standard tool drilling though it is frequently used for boom falls, casing lines, concrete mixers, deadlines, tackle blocks, slings and tubing lines. Its use on the latter applications has been largely supplanted by the 6 x 19 Filler Wire construction.

6 x 19 Seale: This rope is specified for operations in which greater resistance to abrasion and a more rugged rope body are desired. The outer wires are larger in size and are thus equipped to wear down more deeply before breaking than are the wires of Warrington construction. It withstands crushing on the drum very well and also meets other severe service conditions successfully.

A Seale rope is not as flexible as a 6 x 19 Warrington or Filler Wire. Seale rope find their principal uses on draglines, car spotters, crab winches, track lines on cableways, inclines, logging ropes generally, rotary drilling service, scrapers and winches. They are used largely as arch lines in tractor logging.

6 x 19 Filler Wire: This very popular rope has over 6 x 19 Warrington and 6 x 19 Seale Rope the important advantage of greater flexibility and resistance to bending. It is used with good results on many machines equipped with rather small sheaves or drums and where abrasion has not too severe an effect on it. Principal applications are as follows: Shovel hoist ropes, boom falls, car retarders, car dumpers, coal bridges, coal pockets, coal hoisting towers, derricks, elevators, grab buckets, shaft hoists, inclines, skip

hoists, tackle blocks, winches, slings, trench hoes, locomotive cranes, mining machines, oil stills, pile drivers and choker ropes.

6 x 16 Filler Wire: This rope is adaptable to applications in which it is desired to provide greater resistance to abrasion than there is in a 6 x 19 Filler Wire Rope and greater flexibility than can be secured with a 6 x 19 Seale Rope. It is used largely for cargo falls, car haulages, draglines, inclines, slusher ropes and sloop haulages.

6 x 19 Hemp Clad: The 6 x 19 hemp clad (or marlin covered) rope is selected for operation in which men must handle the ropes continually. Hemp clad ropes find their principal use as topping lifts or on grain shovels. The use of this rope for grain shovels is largely influenced by its ability to prevent sparking in an explosive atmosphere due to presence of grain dust. A 5 x 19 hemp clad rope is also available. This rope is slightly stiffer than the 6 x 19 rope. It is used principally as a mooring line, and for rope drives.

6 x 7: The large wires of which this rope is made give it great resistance to abrasion. At the same time they detract from the flexibility of the rope. This principal advantage and this principal limitation define the field of use as one in which the rope is likely to be greatly abraded and in which it encounters no sheaves and drums except those of very large diameter. The principal applications are in cable tool drilling in Eastern oil fields, car haulage, mine slopes, transmission

and for bailing lines, guys, standing rigging and torpedo lines. A 6 x 8 line, which has larger king wire and smaller outer wires in each strand is also employed for cable tool drilling.

6 x 19 Armored: A serving of flat annealed steel wire around each strand prevents abrasion from having immediate effect on the strand wires themselves. The principal uses are on dredges and derricks equipped with grab buckets. This rope is more flexible than a 6 x 19 rope. The soft annealed armor wire soon be-

comes securely imbedded in all the strand voids and interstices affording protection even when the armor is worn through at the crown.

6 x 22 Filler Wire: This rope is similar to the 6 x 19 Filler Wire and is used for certain of the applications in which the 6 x 19 Filler Wire is employed—such uses as require greater flexibility and rather less resistance to abrasion. These uses include grab buckets, mining machines, dipper dredges and shovel hoists.

6 x 37 Seale: A very flexible rope used principally on grab buckets, hot metal cranes, mining machines, overhead cranes and shop cranes.

6 x 37 Filler Wire: A rope of great strength and flexibility used on overhead traveling cranes in steel mills, as slings, and on coal towers.

6 x 41 Flexible Seale IWRC: This is another rope that is used as a hoist line on shovels and dipper dredges. They are rugged ropes of the so-called "flexible construction."

6 x 42 Tiller Rope: A rope for use where the greatest degree of flexibility and comparatively little strength are required. This rope is actually six 6 x 7 hemp core ropes stranded together around another hemp core. Used largely as a marine tiller rope and as an elevator hand rope.

8 x 19 Warrington: This rope is used for steering gear cable, pavers and mixers. Like all eight-strand ropes it has good flexibility but is unsuited to conditions which may involve crushing on the winding drum.

8 x 19 Filler Wire: Filler Wire construction here affords greater flexibility than is possible with the 8 x 19 Warrington rope. Used principally for coal pockets and swinging cables.

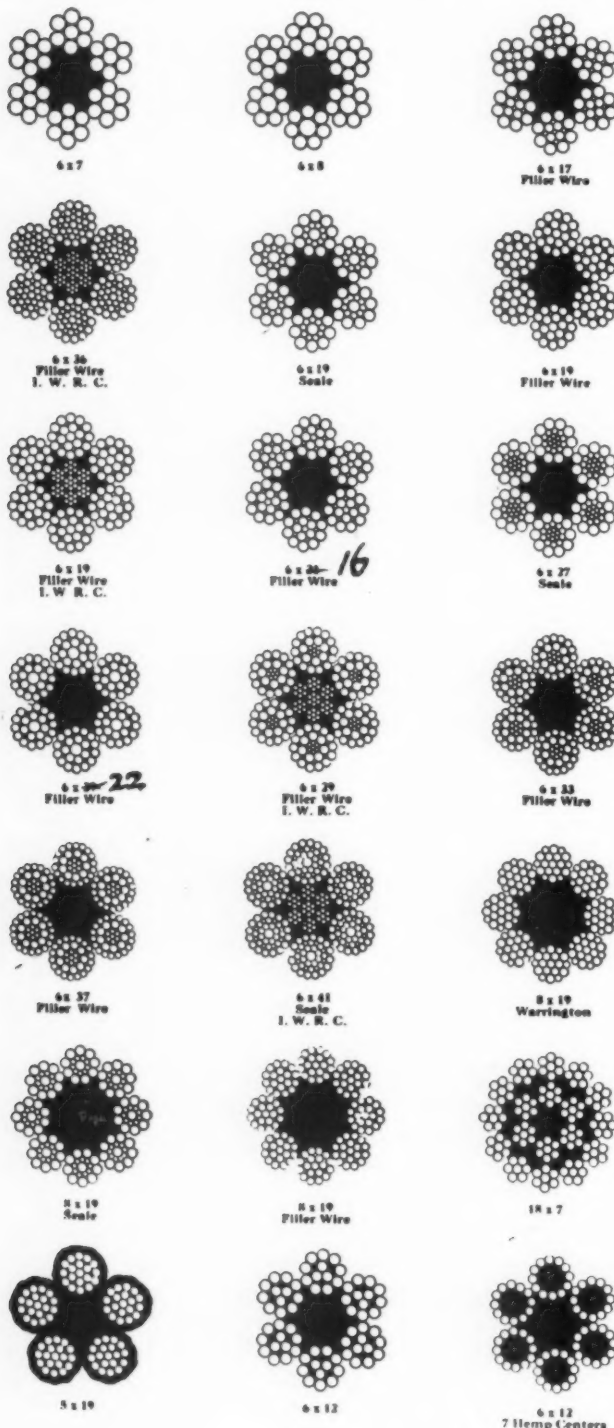
8 x 19 Seale: Where a greater degree of abrasion is encountered, the 8 x 19 Seale construction is employed. This rope is used mostly on elevators and occasionally for cargo falls. In elevator work there sometimes arises controversy over the relative merits of eight-strand and six-strand cables. The evidence appears to favor the six-strand rope for general elevator applications.

Preforming Helps Performance

Most of the ropes that have been discussed give better results when they are preformed. In general, preforming adds largely to the ability of the rope to withstand the effects of constant bending. The more action the line is subjected to, the greater the need to employ a preformed rope. In certain services such as boom lines, non-preformed ropes are used because of their relative inactivity in service. On machines that call for continual action of the boom lines, preformed wire rope should be specified.

Many of the rope applications to which reference is made are handled to best advantage by Lang lay lines. This is particularly true when the rope must encounter small sheaves or a heavy abrasive action. Ropes with independent wire rope centers are specified when protection against crushing is necessary. Lang lay ropes and ropes with independent wire rope centers should be preformed.

Cross-Sections of Various Constructions of Wire Rope



One Thing that Business Needs

FREDERICK G. SPACE

Purchasing Agent

Seymour Manufacturing Company
Seymour, Conn.

A LOT OF SENTIMENT is wasted on business. What is business? Surprising how elaborate definitions may be! As a noun it may mean employment, trade, profession, something to be transacted or required to be done, right of action, etc.

To the man who is part of the fabric of business what does it mean? His definition of what it is all about may be predicated on the station that he occupies. To one it may mean something intimate—the material that he fashions on his machine or the threads that are fed into his loom. To another it may be largely a matter of figures expressed in orderly columns, marching up and down, page after page, but so deployed that they reveal a story whose plot is how to convert labor and materials into currency, exchanging goods for money on such a basis that there is a margin left over to justify the investment and to continue the cycle.

However, just as a democratic form of government, in theory at least, is constituted authority interpreted and directed by persons elected to their tasks, so is business in the accepted term an association of persons employed in creating, interpreting and supplying the material needs of a nation. The labor of these persons creates wealth and the money which is acquired or accumulated in the creation of that wealth is but a symbol of something else. The late Edward A. Filene, in his fascinating book "Successful Living In This Machine Age" says, "Wealth is but a term for things which supply human needs. One might collect all the money in the world, but if the wealth of the world by any chance should vanish, he would have no money, for that which had been but a symbol of wealth would automatically become a symbol of nothing at all."

Too often business is thought of as selfish and grasping. Actually it is a high calling and if we could revise our ideas of its task and purpose in the world to coincide with a concept of wealth rather than money its importance in the general scheme of things would be more universally respected.

Business is not a thing apart; it breathes and has its being; therefore, it has a head, and—contrary to the belief of some—it does have a heart, but I sometimes wonder if it has a back-

bone? A man may carry his business in his head, but as a rule his impact on trade is about as limited as the periphery of his headgear. Business is made up of parts and so is the backbone. If one of the vertebrae becomes misplaced, the patient is crippled, and in like manner business is crippled if its functions are not harmonized.

The prospectus of a town or city may deal with its parks, its playgrounds, its schools and its churches, but as a rule its emphasis is upon its industries and its business opportunities. As business has extended itself and made this nation prosperous, alas it has not always been mindful of the prophetic injunction that righteousness exalteth a nation, for its ethics have at times not been above reproach. Its critics would have us believe that hypocrisy has dominated its leadership and selfishness has been enthroned in its dealings. Under present conditions, when it lifts its voice it is like one crying in the wilderness and new shafts of violence are leveled against it. The strength of business is in the persons who compose it, and likewise its weakness. Let those who give to it of their labors and hence become its beneficiaries give also of their loyalty. A rising tide of confidence would then beat upon our shores and the demagogue would retreat to the shadows.

There are forms of business in this land that fatten on its superfluities, but not so of business as a whole, for it renders an essential service and its chief buttress is its actual need. The history of our country would indicate that the people prosper in proportion as business thrives.

For many years we have heard of the ruthlessness of big business. If what is meant is that large corporations dictate a price policy that makes it difficult for smaller enterprises to compete, then the facts do not justify such a conclusion. Large corporations bend every effort to maintain a fair price structure and their larger overhead makes them under certain conditions easy prey for the small concern whose costs may in proportion be much less. If it is the large corporation's attitude toward labor that is being criticized, it would be very difficult to submit convincing proof of such an accusation. Unfavorable working conditions, less regard for the

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140 Dart St. Providence, R. I.

personal welfare of the individual, have actually existed to a more persistent degree with a certain class of smaller enterprises and this fact the labor department of many states could reveal from their records. Such a statement, however, is not all inclusive, for the smaller concern in many instances embodies the possibility of a relationship between employer and employee that is ideal and permits of a recognition of the principle of teamwork in business which would go far toward insuring the success of any enterprise.

Business needs backbone. Its policy should be characterized by fairness and a character that, like Caesar's wife, places it above reproach. Its ethics can never rise above its leadership. For the most part this country may well be proud of its business leadership. Their courage in the face of obstacles, their faith in the future, their ingenuity and resourcefulness have indeed made America, economically, what it is today. The concern of those whose livelihood is dependent upon business should be that its leadership manifest itself in a larger way. Let it fearlessly take a stand against those theories and isms which would in the long run spell its downfall. Transportation in all its forms, rail, truck and water, are clamoring for solution. Our merchant marine, tariffs and trade treaties, all affect business and it behooves every business man to concern himself with them. There is opportunity and a need for both big business and small business. Their presence engenders competition.

Research and invention are mileposts along the path to a greater prosperity, and many of the latter have been born of competition. The editor of one of our great business dailies has stated that "Big business can serve well so long as it exerts powerful influences in the aims of progress in the same measure that competition would engender." The implication might be that big business restricts competition. This may be true in a small measure but the larger an organization the more complicated its problems. The opportunity of growth is not closed to the smaller company. Competition still exists and brings benefits both to the consumer and to business.

It requires backbone to successfully operate a business. If costs do not permit of goods being sold for

even a slight margin of profit, why reduce them to meet competition? If such a producer is operating on a higher cost basis than his competitor for the same quality of goods and cannot correct his position, the more promptly he liquidates the better, for selling at cost or below is but a postponement of the inevitable.

It requires backbone to face the facts. Numerous concerns have found that discarding some of their pet lines and venturing new ones, even with all of the uncertainties involved, has proved better than trying to keep the others continually under an oxygen tent. Any successful sales manager can submit numerous instances of the reward that comes from staunchly holding to a price policy, if such a policy is intelligently conceived. The growth of such a concern might be slower, but it would partake of the qualities of the oak; however, it would take courage. It has frequently been observed that weak-kneed selling more than hard-boiled buying is responsible for much of the profitless turn-over of goods.

The Buyer's Responsibility

The duty of a purchasing agent is to obtain the maximum value for the money he spends and he cannot fulfill that duty without giving consideration to the price of what he buys. Moreover, he must recognize his obligation to place his company in as favorable a position so far as the cost of materials is concerned as its competitor, and such an approach to the markets implies no effort to break down a fair price or to invite chiseling. It is a natural expression of the effort to obtain the most favorable dollar value or in other words to bring quality and price into proper relationship. If a concern misinterprets such an approach and in its eagerness to obtain an order very largely ignores its costs, then the impact on the market may be unfortunate but again, it takes courage.

It is not a particularly wholesome observation, but some people might profitably be protected against themselves. Some concerns it would appear are subject to this same classification and it is possible that the genesis of such schemes as the NRA was the position in which business found itself because of the competition that such concerns would offer. A recognition of this provides a fertile field for a certain class of politicians.

Business men, individually and collectively, should take their politics more seriously. It is the only way they can successfully combat the mounting tax burden and the restraints on trade in the way of laws, rules and regulations which fence them in and confront them at every turn. It takes backbone to publicly face the cheap politician or labor leader whose cleverness is his ability to tear down and to mislead and misinterpret. If a man's home is sacred, so in a large measure is his business. No brief is held for the enterprise that has little regard for public interest but in the white light of our present day the prosperity of such an enterprise would be short lived. Many a business has been betrayed in the house of its friends and a certain militancy is essential to its growth and progress.

SILHOUETTE STUDIES

34: James Walter Harrington

FEW THINGS ILLUSTRATE SO vividly the relative youth of the purchasing function in industrial organization as the number of men active in the work today whose business experience spans the entire development of centralized buying in their respective companies. And few things illustrate the potentialities of purchasing more strikingly than the way in which these men, starting from scratch, have grown with the job.

When Jim Harrington graduated from Greenfield (Mass.) High School and took a job with the Wiley & Russell Manufacturing Company, back in 1905, one of the partners was "handling the buying" along with a variety of other miscellaneous duties that came within the scope of the general manager's office. That plant, forerunner of the present Greenfield Tap & Die Corporation, was a typical substantial manufacturing company, well, though somewhat informally organized according to the standards and practice of its day. The nearest approach to specialized purchasing work was the assignment of a clerk as assistant to the manager for the purpose of keeping purchase records, checking invoices and receiving reports, and the like. Jim worked up to that position after about three years with the company. It was his introduction to industrial buying, but scarcely a purchasing department in any modern sense of the term.

In 1912 came the first of a series of mergers and the start of the present Corporation, as Wiley & Russell joined forces with Wells Brothers Company, another local tool manufacturing plant. But for some time after the merger, the operations of the two plants were carried on quite separately. Mr. Russell had stepped out of the management under the new set-up, leaving Harrington nominally at the

head of the buying activity of the Wiley & Russell unit, but the scope of the work was only slightly affected by this change.

It is significant that purchasing was the first function to be consolidated between the two plants, the first department to use the new corporate title on its stationery, letterheads and forms, almost a year after the combination had technically been effected. It was the first phase of management in which an attempt was made to unify and realize the advantages inherent in the larger scale of operations under the combination.

Harrington was invited to take over the complete purchasing job. There were, quite frankly, some misgivings as to how this innovation might be accepted by the other plant, some questions of adjustment among the personnel; and the young man, still in his early twenties, visioned his new assignment as a problem in diplomacy and personal salesmanship as much as buying competence. However, since it was sound in principle and capably administered, the plan worked successfully from the beginning. In no small measure, that success can be attributed to the genial and co-operative personality of the man who worked out the new system. An organization man in the sense of one who places the interests of the company and the group above any personal ambition, and who consistently views purchasing as a service function in relation to the other departments of the organization, he quickly won the confidence of the management and of those with whom he worked.

That confidence and loyalty has grown with the passing of the years. Through the natural process of growth, accelerated by the acquisition of several other related plants in the course of the following

years, bringing the Corporation to a position of high rank in its industry, the purchasing responsibility has grown to rather sizable proportions, and Jim is head man in the buying division of the larger organization.

HE HAS ALWAYS enjoyed purchasing, and has taken a keen interest in the development of purchasing technique and influence. If that were not the case, it is doubtful whether he would have remained long in that particular phase of industry. For he came early to the conclusion and the philosophy that so much of a man's life is occupied by his business interests that he had better find a source of personal satisfaction in his work, or find some other work which would provide that satisfaction. In particular, he has enjoyed the personal contacts of purchasing. He likes people, and likes to work with people—a faculty that finds exceptional opportunities for expression in the buying job; and the stimulation of these personal contacts, within his company, with vendors, and among purchasing men, as well as the challenge of every-changing conditions, has never permitted his natural enthusiasm to flag.

Soon after taking over the purchasing work, he joined the New England Purchasing Agents Association, even though his situation a hundred miles from Boston made active participation and even regular attendance at meetings rather a difficult matter. This was before the National Association idea had made any great headway, and the New England group was still functioning as an independent organization. Harrington attended the Pittsburgh convention of N. A. P. A. in 1916, and was thoroughly sold on the broader program as being in line with his own progressive and co-

operative ideas. When the question was subsequently debated in the New England Association, he was one of those who counselled affiliation with the national organization, and saw that course adopted.

Shortly afterwards, when it was proposed to organize an association among the buyers of Western Massachusetts, he took an active interest in that project, and transferred his membership to become a charter member of the latter group. Despite the forty mile drive to the meetings in Springfield, he was from the start one of the most regular attendants and the most active and dependable workers. He declined office, however, in the sincere belief that the Association executives should be located in the principal city, close to the bulk of the membership, in order to carry out their duties properly. It was not until 1935 that this argument was overruled and he was installed as secretary. That experiment being thoroughly successful, he went on in the next succeeding years to become

president and national director, and the record of those years of his leadership is one of sound accomplishment. Among the more notable features was the development of a stronger national consciousness, reflecting the influence of his own early experience in Association work, which has been sustained by attendance at more than half of the national meetings, where he is a familiar and a popular figure.

The character of his leadership is far from domineering. A hard and unselfish worker on his own account, he has the faculty of imparting his own enthusiasm to others, and of enlisting their cooperation in the common cause. No spellbinder, he speaks easily and tells a story well—a natural talent that has been enhanced by his continuing interest in the public speaking groups of the Massachusetts State University Extension program. A good parliamentarian, he knows how to conduct a discussion so as to bring out every facet of opinion, yet without letting the subject get out of hand, and his ready Irish wit and sense of humor have saved many a situation.

HE HAS A HEALTHY interest in sports, both as a spectator and participant, plays golf at the Greenfield Country Club, and bowls a better than average game. Primarily he is a lover of the out-of-doors. He has fished the local trout streams ever since he cut his own pole and baited a penny hook, and for the past eleven years has gone after the elusive bass at Lake Waukegan, near Meredith, New Hampshire. He finds pleasure and relaxation in an occasional afternoon at the races, even without the added stimulation of backing his opinion with a modest ticket across the board. More frequently than not, he doesn't go near the windows. Just now he is trying to live down an entirely accidental reputation as an expert, gained when for reasons of sentiment he picked a rank outsider that happened to be a namesake, and walked away with a daily double at Narragansett that netted him a check in four figures. More than ever, since that experi-

ence, he declines to venture an opinion or advice, for it would look pretty foolish, he explains, to promote a system that depends first of all on finding a pony named James.

Since early boyhood he has been an ardent camera fan, and takes pride in a most unusual collection of photographs. Some of them date back to high school days, when he spent long hours in the dark room mastering the technical as well as the artistic side of his hobby. He has captured a good deal of the scenic beauty of western New England on his plates and films, many of which he has made into lantern slides and transparencies of unique charm. Latterly he has followed the trend of the times and has taken up motion picture photography with interesting results.

Salesmen like to call on Jim Harrington. Naturally they like the very substantial business which he represents. More than this, it restores their faith to find that serious and efficient business methods are not incompatible with natural human friendships, and that the tempo of modern large scale industry can be adjusted to the comfortable tempo of the busy but unhurried community among the hills that extend in a delightful panorama from his office windows. Most of all, they like to call because they like Jim.

—S.F.H.

LEON BOOTH, City Purchasing Agent at Shreveport, La., has been named publicity chairman of the Shreveport Beautification Foundation, Inc., a division of the Chamber of Commerce which is performing a notable civic service, including a five-year program of redbud planting along Cross Lake, and annual Ark-La-Tex flower show and garden pilgrimage.

WILLIAM C. COLDEWE, Purchasing Agent for Stix, Baer & Fuller, St. Louis, was guest of honor at a recent testimonial luncheon celebrating the forty-fifth anniversary of his association with that company.

AA
QUALITY
ABRASIVES

TRADE MARK

ALUMINUM OXIDE
SILICON CARBIDE
CORUNDUM
(AFRICAN)
TURKISH EMERY

Refiners and Makers
of
ABRASIVE GRAINS
AND
FLOURS

AMERICAN ABRASIVE COMPANY
WESTFIELD, MASS.



“The butts are shorter since he used up the Christmas cigars and got back to his own brand.”

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and got back to his own brand."*

THE MARKETING OF HIDES

FRANCIS A. WESTBROOK

HIDES ARE AMONG the leading world commodities, reaching an annual value of around half a billion dollars, and yet are in the anomalous position of being a by-product. That is, the quantity of hides produced depends on the demand for meat, primarily, and therefore has no direct relationship to the demand for leather. Very few types of skins come from animals slaughtered specifically for the leather industry. These conditions, plus the fact that a considerable time factor is involved in the tanning operations, subjects the tanners to serious risks from adverse price changes which, as may readily be seen, are liable to wide and more or less unpredictable fluctuations.

Thus, in order to keep in touch with market conditions, and to gain as intelligent an idea as possible regarding the price trends which may be looked for, it is necessary to watch the continually changing curve of the production cycle of cattle on the farms of this country. It is also very important to consider this in the light of the prices of meat and the general conditions of prosperity, which greatly affect the consumption of meat. In addition to this, certain kinds of hides are imported while others are exported, the former in considerable volume, so that the foreign situation has a decided influence on the price trend. Such data can be obtained from the various trade papers in the field, certain of the metropolitan dailies and the more active and reliable brokers.

According to the Hide Inspector-in-Chief of the Commodity Ex-

change, Inc., of New York, Mr. Roscoe Manley, there are, in our domestic market, four different classes of producers of hides, as follows:

1. The farmer and small butcher kill,
2. The wholesale butcher,
3. The small packer,
4. The big packer.

The hides from cattle killed by farmers are usually sold to butcher shops in town or to little country hide dealers. The small butchers also sell to the nearest local dealer, as a general thing. They are then resold to the large hide dealers who sell in carload lots to tanners. Years ago when the country and butcher kill was heavy, the dealers employed hide buyers to travel regularly in the territories where cattle were killed, to buy hides and other stock which might include calf skins, sheep pelts, tallow, grease, etc. In those times some of the tanners operated houses in sections where the butcher slaughter was heavy, and from which their own buyers travelled. Their purchases would be shipped to their branch where the hides would be accumulated in carload lots and shipped to the tannery. Certain classes of hides which they did not tan would be sold to dealers or other tanneries. Such shipments were in most instances made by railroad and payment was made by sight draft, bill of lading attached.

Up to about 35 or 40 years ago the farmers and the butchers produced a very large proportion of our domestic hides, but in later years the packers have materially increased

their volume, due primarily to refrigeration and the services they are able to render. That is, the meat markets find it more convenient and economical, in most instances, to buy from the packers instead of purchasing live stock and being put to the expense of doing their own butchering. In buying dressed meat they can be sure of obtaining more uniform quality, and, as the packers cut the carcasses into many different parts, the markets can order those portions which they require for filling their orders instead of accumulating unpopular cuts and losing money on them.

So today, on account of this greatly reduced butcher kill, dealers cannot afford to send out buyers as regularly or as frequently as before. Therefore they keep in touch, either by telephone or correspondence, with those butchers who slaughter, and often make their purchases in this way. Very often they send out trucks to pick up hides so bought, instead of having them shipped by railroad.

The producers of hides, either butchers or packers, usually salt them before disposal unless some dealer buys them green and salts them himself. Packer hides are not shipped until at least 30 days after the closing date of the pack, this length of time being allowed for curing. They are then called green salted hides, and this is the form on which quotations are made. Large hide dealers have warehouses where they accumulate their purchases from the small butchers or small dealers from different points. These are usually trimmed of excess fat, meat, sinews, etc., and are selected for different weights and kinds. When they have assembled quantities of each selection they are sold as soon as a satisfactory buyer has been found.

"Country hides" are those which are produced by farmers and other

This is the fourth article in a series outlining the marketing process in major raw materials, tracing the course of the material from its source to the time of its arrival in the industrial user's plant

small butchers at outside points. "Packer hides" are those which are produced by large packers such as Armour, Swift, etc., and numerous smaller packers whose hides are called "small packer hides."

cattle produces hides which are thinner than beef cattle like Herefords and Polled-Angus.

Many industrial users of hides, such as the leather belting manufacturers, for example, tan for their

possibility results from the fact that there is no direct relationship between the production of hides and the demand for leather, as already pointed out. For the same reason many foreign hides are bought by



Hides on the hoof

Photo by Galloway

"Native steers" are steers which are unbranded. They are sold together as heavies and lights, the heavies being 58 lbs. and up and the lights 48 to 58 lbs. The light hides bring one cent per lb. less than the heavies. "Light native cows" contain no brands and are 23 to 53 lbs. in weight. "Heavy native cows" are unbranded hides of 53 lbs. and over. "Branded cows" are those cows which are branded and are graded 23 lbs. and up. "Butt branded steers" are those which are branded in the butt of the hide. "Heavy belting butts" refers to a portion of the leather which has been tanned for the purpose of making belts for machine drives. These different kinds of hides all go to tanners to be tanned into leather of different kinds. Thus branded hides are usually used for making sole leather. Native hides are sometimes used for sole leather as well as for other purposes such as, in the case of steers, for belting butts, harness, furniture leather, etc.

There are certain qualities that a buyer looks for when purchasing hides, such as weight, plumpness, freedom from brands, etc. If a buyer prefers thin hides he would go into a dairy region as this class of

own account. There are, in addition, some tanners who tan for other people at a certain price per lb. Many different tanning formulae are used depending upon the kind of leather to be produced, a variety of extracts being employed, such as Quebracho, Chestnuts, Sumac, Myrabolams, Barks, etc., etc., and the operations vary considerably as to the length of time necessary to complete them. The tanning of sole leather, belting butts and heavy leathers takes from 3 to 5 months. Upper leathers are usually tanned in much less time. During these periods the hair is removed from the skin, the flesh is taken off, and the hide made into leather.

In the small and big packer markets the dealers sometimes buy hides on speculation, but more often brokers buy the majority of them for tanners, charging a commission for purchasing, receiving and shipping. There are also some large tanners who have their own departments which buy the hides directly from the packers and send their representatives to inspect and ship them.

Foreign hides are imported by dealers at times when they believe they can sell them at a profit. This

brokers for their tannery clients, a commission being charged for making the buying and shipping arrangements. Letters of credit are usually issued in these purchases. Occasionally, also, foreign hides are sent here on consignment to some of the well-known dealers.

There are a great many hide markets in the world. One of the most widely known international markets is at Buenos Aires, where hides are bought regularly by European, Asiatic and American buyers. The United States tans nearly all of the hides which it produces, and at times it is necessary to import in large quantities.

In this country Chicago is perhaps the largest market for the reason that the houses of the largest packers are located there. Hides from all of their other packing houses are sold from this point. There are also many packing houses on the west coast which supply hides to the tanning industry, and then there are the smaller markets scattered in different locations throughout the United States.

Another method of marketing hides is through the Hide Futures Market of Commodity Exchange, Inc. There are times in the spot



Photo by Galloway

Hides are carefully graded and sorted for use

market when buyers and sellers cannot agree on price, sometimes resulting in an absence of business for several months. In the futures market, however, there is always an opportunity to buy and sell. A packer whose hides conform to the laws, rules and regulations of the Exchange can deliver them against a futures sale transacted on the Exchange, which is a direct way of selling. If a tanner can use the different kinds of hides which might be delivered to him under a Standard Futures Contract he can safely buy in this market and take delivery. A dealer can also buy futures, take delivery and sell to his different clients depending on their requirements and the kind of hides delivered to him. In the case of this commodity, the Hide Futures Contract plays more of a part in the actual transference of the merchandise than with many other commodities.

For this reason a clear understanding of the Standard Futures Contract which has been adopted by the Commodity Exchange becomes very desirable.

A unit hide contract consists of 40,000 lbs. of wet salted hides and the price quoted on the Exchange is on the basis of Standard No. 1 Light Native Cows of July, August or September take-off. The seller

has the option to deliver a number of other grades, some of which are at a premium, others at a discount and still others at the basis price. Deliveries are made from supervised refrigerated warehouses in New York and Chicago, which are licensed by the Exchange, and shipments are accompanied by a certificate showing that they have been inspected by an official inspector of the Hide Inspection Bureau of the Exchange. In this way the buyer is assured that the standards, rules and by-laws of the Exchange have been properly conformed with, taking into account the allowances for grade, quality, month of take-off, etc. Thus if a contract unit of hides should fall below the standard for its grade, a discount will be made on the lot by the Inspection Bureau. However if the inferiority is so great that the discount is more than $1\frac{1}{2}$ cents per lb., the hides are not, according to Exchange regulations, suitable for delivery on a futures contract. Such a differential, of course, is in addition to the plus or minus differential applying to the grade in question and the discount, made in the form of a deduction in weight, for take-off in months other than July, August or September. The latter varies from 1 to 10%, depending on the month.

The value of these inspections by the Exchange, accompanied by the corresponding certificates, when it comes to borrowing on inventories of such hides is very great. That is, when they are offered as security for a loan, the borrower as well as the lender knows exactly what the collateral is worth so that there need be no bickering or uncertainty.

Hedging, or price insurance, is particularly desirable in the hide and leather industry because of the sometimes violent price trends of this commodity. This is because, as previously pointed out, hides are a by-product of the meat industry and are not produced, on the whole, to meet the demands of the leather industry. It may easily happen, and often does, that when the demand for meat is low and the production of hides consequently small, there may be a big demand for leather goods of one kind or another which will force up the price of hides, or vice versa. This places the tanner in a ticklish position because tanning operations take considerable time during which there may be very serious adverse price fluctuations. Consequently a hedge in the futures market corresponding to a purchase or sale in the usual trade channels is practically imperative for protection.

Experience in the hide futures market has shown that its usefulness for hedging purposes is not limited to the producers, dealers or tanners handling only "packer hides" but is also of benefit to those handling "country hides," goat and calf skins, etc. In other words the price trends of the different classes closely follow that of "Light native cows." The same is true of the trend of leather values, which closely follow the hide market and are all reflected in the futures market. This relationship may not be as close with respect to foreign hides and skins, but the price movement of futures definitely reflects general trade conditions, and as the Commodity Exchange Hide Futures Market is the only one of its kind in the world it is of importance to foreign producers, consumers and dealers.

PERSONALITIES in the NEWS



DONALD G. CLARK has been appointed Director of Purchases for the Gulf Companies, with headquarters in the Gulf Building, Pittsburgh, Penna. Mr. Clark has been associated with the Brown & Sharpe Mfg. Co. of Providence, R. I., since 1916. For eleven years he served as purchasing agent of that company, and for the past several years has been comptroller of the organization. He is a past president of the Rhode Island Purchasing Agents Association and of the National Association of Purchasing Agents, and was awarded the Shipman Medal in 1936 for outstanding service to purchasing. As chairman of the N. A. P. A. Educational Committee he has contributed vastly to the development, organization and dissemination of purchasing knowledge among purchasing men and through leading colleges of business administration, and is editor of the Handbook of Purchasing Policies and Procedure now being compiled by N. A. P. A. A graduate of Brown University and Harvard Law School, Mr. Clark has been active in civic affairs, serving as president of the Providence Y. M. C. A., President of the Providence Lions Club, and member of the Providence City Council.

THOMAS D. JOLLY, Director of Purchases for the Aluminum Company of America, and District Vice President of the N. A. P. A., addressed the Malleable Founders Society at Cleveland, December 15th, on the topic, "Relationship Between the Buyer and the Seller."

ROBERT C. KELLEY, Purchasing Agent of the Converse Rubber Co., addressed the senior class in the engineering-business administration course, Massachusetts Institute of Technology, on "The Job of Buying."

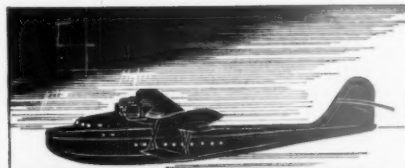
KARL L. BRENNER has been appointed purchasing agent for the Wabash Railroad at St. Louis, succeeding THOMAS J. FRIER, who retires from active business after fifty-five years of railroading. Mr. Frier became purchasing agent in 1909.

FREDERICK A. MANCHESTER, Purchasing Agent for the American Enka Corp., has been chosen Worshipful Master of the Weaverville Blackmer Lodge, A. F. & A. M., at Asheville, N. C.

SUMNER R. KEYES, Purchasing Agent of the Boston Edison Co., was a member of the executive committee for the Fiftieth Anniversary celebration of the Rindge Technical School, Cambridge, Mass. Mr. Keyes is a Rindge alumnus.

HENRY R. MICHEL has been appointed purchasing agent for the East Pittsburgh Works of Westinghouse Electric & Mfg. Co. An electrical engineer by training, Mr. Michel joined the Westinghouse organization in 1920, and was assistant purchasing agent prior to his recent advancement.

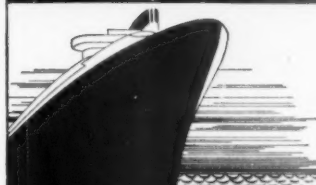
L. R. STANFORD, City Purchasing Agent at Austin, Texas, has been elected president of the Exchange Club of that city for 1939.



*Modern Business
demands*
THIN PAPERS

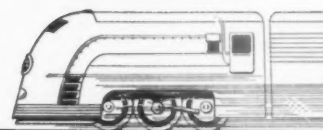
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MAILING
TYPING
FILING
COSTS**

**Ideal for Air Mail, Branch
Office and Foreign
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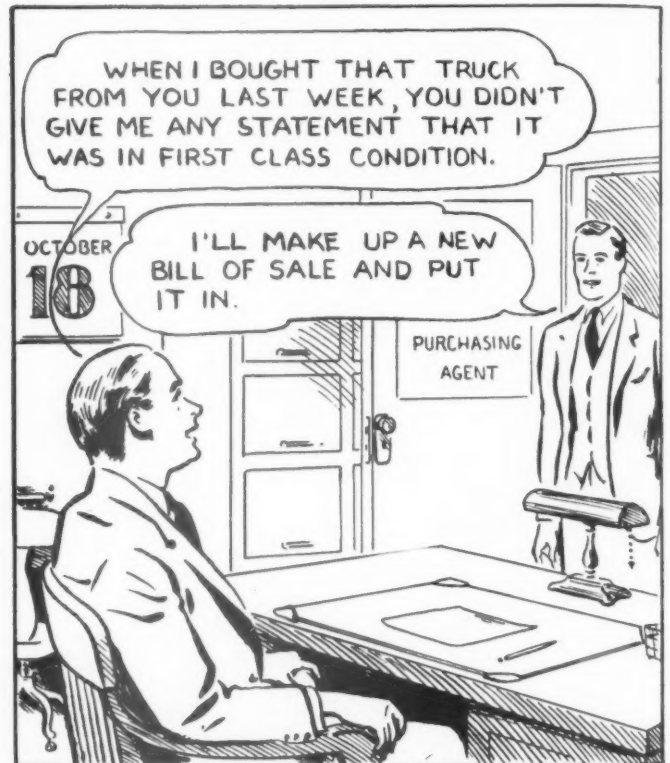
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Pen-Points on Purchase Law



THAT "CONSIDERATION" is an important element in contracts is shown by such situations as the one above. The express warranty, made some time after the sale, is not regarded as part of the original contract for which the purchasing agent paid a stipulated price. For this reason it is said that the purchasing agent neither promised nor gave any consideration

for the warranty, even though it was afterwards included in the bill of sale. Hence it was a mere "gratuity"; the P.A. paid nothing for it.

Though this application of the principle of "consideration" may appear unduly technical, it is found in many cases. Watch for it.

Copy by H. H. Shively, Babson Institute; drawings by G. E. Tulloch.

Improving Quality of Deliveries by Specifications --- and Test

R. L. STOUGHTON

Purchasing Agent
Lee Spring Company
Brooklyn

It has long been recognized that testing is an essential part of any purchase specification. Here is a case in which testing not only insured observance of minimum quality but notably improved the standard of deliveries of a commercial grade

THE IDEAL SPECIFICATION is a supposedly airtight instrument, allowing no loopholes through which the basic requirements may escape, and it is rightly regarded as an essential element of good buying procedure. In effect, it serves to place a supplier on guard; to warn him that the buyer knows what is most suitable for his particular needs and will accept nothing less. That is clarifying, but is it ideal?

So long as a material meets the minimum standards specified, the product may be assumed to have been well bought and the buyer may justly take pride in the achievement, if his philosophy will permit it. But has it been bought to the best advantage or can one ever rest content in the pacifying knowledge of a seemingly ideal achievement? Always life beckons toward a higher goal.

Does the athlete ever run a race with the incentive of crossing the finishing line just ahead of the last man? Does buying on specification ask or expect any more than being next to the last? We doubt that it does in a great many instances.

Progressive minds are always seeking ways to improve and excel by the greatest possible margin. Suppliers, too, have an uncanny habit of continually developing ways

and means of making a better material, but they are not obligated to supply it for it might even violate a specification if they did; and the seemingly minor details are all too often omitted in both advertising and selling effort. It is so much easier to talk about quality in the abstract and of our willingness to work with you. How do they know we want anyone to work with us? We want them to work for us. Then too, can anyone who is engaged in another line of business be expected to write specifications embodying the latest developments of the men who are making the material or product every day?

These are provocative thoughts. However, when thoughts become sufficiently annoying, they are usually answerable. If there are men in the employ of a supplier continually trying to do a better job, why not get that firm and its men to work for us, instead of with us? That was our answer to these thoughts. Why not?

But how and where? Well, if nothing succeeds like success, then nothing explains like an example. It was reasoned that the logical way to try the theory, would be to start on a material giving the greatest buying concern. So a commercial grade of spring wire was chosen.

Now, quality expresses a relative thought. For our purpose, hardness, ductility and an absence of flaws in wire (such as seams and surface imperfections) constitute the pot of gold in our vision of Utopia. They may be obtained in rather generous measure, at a price. But there are many humble items in life, the market for which would be seriously disturbed or ruined if they had to be made of the most expensive materials. And for this class of product, we wanted a better grade of commercial wire than the market had ever offered us.

Specifications? Yes, there were plenty of them specifying minimum limits. But we wanted something better than a Hobson's choice. And always we were told quite definitely that our ideas could not be met short of an enormous advance in price. Well, maybe it couldn't be done, but we wouldn't acknowledge it.

Despairing of ever having our ideas accepted, the subject was approached from an entirely new angle. Our method of testing all wire was printed and explained in detail. These were then sent to each of several suppliers and our thoughts expressed by letter and orally to the salesmen who called.

Continued on page 47

Essential Information for the Purchasing of Power Plant Insurance

C. P. SLATER

Assistant Purchasing Agent
University of Illinois

THE SUCCESSFUL OPERATION of a manufacturing plant, business concern or institution is dependent on the unfailing service of the engines and machines which supply the necessary water, steam, heat, refrigeration, compressed air, electricity or similar service. The lack of any one of these services when needed may be very costly, goods in process may be spoiled, regular customers may go elsewhere, or tuition fees may be lost. The loss is frequently more far reaching than the actual time of the deprivation of the service.

Present day conditions require many different types of boilers, engines, and machines to produce and transmit these various services. Some of these machines are complicated and need constant care, others occupy a position of major importance in the operation of the plant, and to replace them will place a financial burden on the organization, while still others are not likely to fail, or if they do, they can be quickly replaced at a nominal cost. One way of guarding against accidents, breakdowns, or losses is to have the machines inspected and serviced at regular intervals by especially trained men, and as a final precaution, insure the machines so as to provide indemnity in case of a loss. Insurance companies have developed their own engineering staffs to take care of the inspection. They endeavor to prevent accidents by inspections at regular intervals, that is, the inspection service and corrective recommendations are a part of the insurance.

The plant engineer is responsible for the operation of a plant which

may have several different kinds of highly complicated machines. The value of these machines and importance of unfailing operation is so important that it is generally felt to be wise to secure the inspection services of experts and the protection of insurance. The official responsible for procuring this service and protection cannot turn the problem over to some insurance company with the expectancy of accepting their recommendations without critically analyzing them. To do so would place him in the position of being uncertain as to the adequacy of the protection and would leave him vulnerable to the sales motives of the agent or insurance company. The fact is that the agent is usually trained to sell insurance and many times does not have sufficient training or a background of experience to make it possible for him to give the expert help which is needed. The official responsible for the insurance has questions recurrently arising where a quick answer to some point of routine procedure may save delay, trouble, or at times, a serious mistake. This article is designed to be a ready reference for him in such matters; naturally, there will be many situations where more extended investigation, planning, and detail are necessary.

When we say that insurance is a contract between two parties, we must not lose sight of the fact that it gives a great deal of latitude as to what each of the parties may agree to do. The use of a so-called Conference Form of policy for boiler and machinery insurance tends to standardize the terms of the contract. However, it is to be kept in mind

that the Conference Form of policy can be altered by the use of endorsements.¹

Objects Which May Be Insured

A first step in analyzing the boiler and machinery coverage is a review of the objects which may be insured, and while no claim is made for completeness in the following list, it does include about 95% of the objects insured:

- Boilers
- Turbines which drive generators
- Piping to convey the medium to the pressure vessel, turbine, etc.
- Generators of electricity
- Unfired vessels, condensers, cookers, jacketed kettles, storage tanks, feedwater heaters
- Switchboards
- Transformers
- Motors
- Compressors used for refrigerating
- Compressors
- Refrigerating systems, cooling agents
- Pumps

Kinds of Protection

A second step in the analysis is to consider in an orderly array the various kinds of protection and indemnity which are available. In general, insurance can be secured for five types of losses incidental to an accident to an object.

1. *Accidents.* Insurance for accidents to the object. The insurance does not cover damage caused by fire or by the use of water or other means to extinguish the fire. It does not cover damage to other in-

¹ The Conference Form of policy for boiler and machinery, copyrighted by J. P. H. de Windt is used by practically all insurance companies.

sured property of the insured or loss due to the interruption of his business.

2. *Expediting.* This type of protection is optional and at an added cost. It covers the cost for making temporary repairs, or for expediting repairs such as overtime, the use of express instead of freight shipments, and other costs due to hastening the permanent repair or replacement of the machine.

3. *Coverage of the property of others.* It provides for the payment, to the extent of any indemnity remaining after payment of any losses caused by an accident or due to expediting repairs, which the insured shall be obliged to pay because of his liability for loss on the property of others as a result of an accident to his insured property.

4. *Public liability.* If there is any indemnity remaining after paying any losses involved in the preceding coverages, it provides protection for the liability of the insured for the loss of service on account of bodily injuries sustained by any person and caused by an accident. However, this indemnity shall not be applicable under any workman's compensation insurance.

5. *The cost of legal defense.* It covers all costs taxed against the insured in any legal proceeding providing the accident happens while the object is in use or is connected ready for use.

Indirect Losses

There are also certain indirect losses frequently encountered in connection with the hazards listed above, but not included in that classification, which can also be covered by insurance.

1. *Use and occupancy*, that is, indemnity for the interruption of the insured's business operations.

2. *Consequential losses* caused by spoilage due to lack of power, heat, light, steam, or refrigeration.

3. *Outage*, that is, the failure of an object to function, in which case an agreement is usually made to pay a specified amount per hour for each object.

4. *Power interruption* protects against the loss caused by the lack



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of power or service secured from another source due to an accident to the utilities equipment.

Risks Not Covered

Certain risks are not covered under boiler and machinery insurance; some can be covered by other insurance, others represent operating problems.

1. Repairs or renewal of parts because of natural wear.
2. Accidents due to an explosion of accumulated gases within the furnace of the boiler, that is, an explosion in the fire box, tubes or breeching of a boiler is not an explosion originating within the boiler.
3. Smudge losses are not considered as explosion losses.
4. Freezing of the contents of the boiler.
5. Accidents resulting from a safety valve or other governing mechanism being set for higher limits of safety than those authorized by the company.
6. Losses caused by a strike, insurrection, or civil commotion.
7. Liability in excess of the respective limits specified.

Costs

Costs are based on the rates published by the National Bureau of Surety and Casualty Underwriters and consist of the following charges:

1. Basic charge, which varies with the limits of the amount of insurance required.
2. Location charge; the actual cost of carrying on the business and making the inspections.
3. The object charge; made for each object based on the rate of that particular object. If an object is not used for a period of three months, the object charge may be cancelled during suspension. Suspension is of two kinds—definite and indefinite.

Classifying the Equipment

Boilers are classified, for insurance purposes, under six headings:

1. Power boilers operating at 15 lbs. pressure or more.
2. Fire tube boilers, in which instance the heat passes through tubes surrounded by water.

3. Water tube boilers, the water passing through tubes to which heat is applied.

4. Combination boilers.
5. Heat boilers operating at 15 lbs. pressure or less.
6. Cast iron boilers. These are not insurable when operated at 15 lbs. pressure or more.

For insurance specifications a boiler includes itself and the outlet to the valves in such pipes nearest the boiler. If there is no valve in such passage within 20 feet of the boiler, no piping is included. In case of an unfired vessel, inlet and outlet pipes, and the valves and fittings on such pipes are specifically excluded.²

Piping is classified under three headings.

1. Main steam piping includes the piping transmitting steam at 15 lbs. or more from the boiler to, but not including, the engine, turbine, compressor, pump, tank, radiator, etc. It includes the intervening valves, fittings, and traps. If the pressure is lowered by a reducing valve to 15 lbs. or less, beyond that point it is not classified as main steam piping.

2. Pressure piping includes the

² Power Plant Sbp-1, March 1937, the F. C. & S. Bulletins, published by the National Underwriter Co., 420 East Fourth St., Cincinnati, Ohio.



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main steam piping plus feed water piping and all piping for water of condensation for return to the boilers, including the intervening valves, fittings, but excluding radiators and other insurable objects. Pressure piping is the only piping coverage written in connection with low pressure boilers. Pressure piping running in the ground below the streets owned by the assured is covered providing it is in an accessible tunnel. If it is not in an accessible tunnel, it is not considered as being on the premises of the assured.

3. Auxiliary piping includes air piping, pipes for circulating liquids other than water, and blow-off pipes on boilers. It includes the coils utilizing steam for purposes other than warming buildings, the pipes used to transmit steam to condensers, and piping for circulating gases excepting such pipes used as a part of a refrigeration system or refrigerating vessels and piping from an outside source.

Engine Insurance. Indemnification against accidental breakdown of the engine does not include damage to a bearing on account of overheating, or the breakdown of an engine while a regulator of pressure or governing device is altered or set in excess of that approved by the insurance company.

Electrical machinery which may be insured against accidental breakdown and the resulting damage to the machine includes three different major classes of machines:

1. Motors and generators
2. Rotary convertors
3. Non-rotating machines such as transformers, condensers, motors, switchboards, and voltage regulators.

The coverage does not include replacement or renewal of fuses or damage resulting from a breakdown while the machine is undergoing insulating breakdown tests, experimentation, repair, or drying out. Under the coverage of electrical current interruption, there is no indemnity for the loss during the first five minutes of deprivation of current.

Wheel insurance. Originally fly-wheel insurance covered the explo-

sion of flywheels only. It has been extended to cover many other revolving machines, such as pulleys, fans, blowers, turbines, etc. It includes losses caused by explosions, bursting, disrupting, or breaking of any object described in the schedule. However, it excludes accidents caused by speed in excess of the number of revolutions per minute designated in the policy.

Purchasing the Insurance

The foregoing information gives the buyer a background on which he can proceed with the purchase of the insurance; however, he should carefully investigate the financial strength of the insurance company and the adequacy of its inspection service. As a basis on which to judge the financial strength of the insurance company, he can ask for the following information:

Best's policyholders rating

Best's financial rating

The amount of liabilities, capital, and surplus

The ratio of premiums written to expenses incurred

The ratio of premiums earned to losses incurred

Or, as an alternative, fuller information can be obtained from *Best's Insurance Guide*. As a basis for judging the adequacy of the inspection service, the following information can be requested: The training and experience of the inspectors, the examining boards they have passed, a list of similar clients which the company has been servicing for a number of years, does the company have sufficient accounts in the same geographical territory to warrant frequent inspections, the location of the headquarters office for the inspectors, the size of the inspectional staff maintained by that office, and how frequently inspections will be made.

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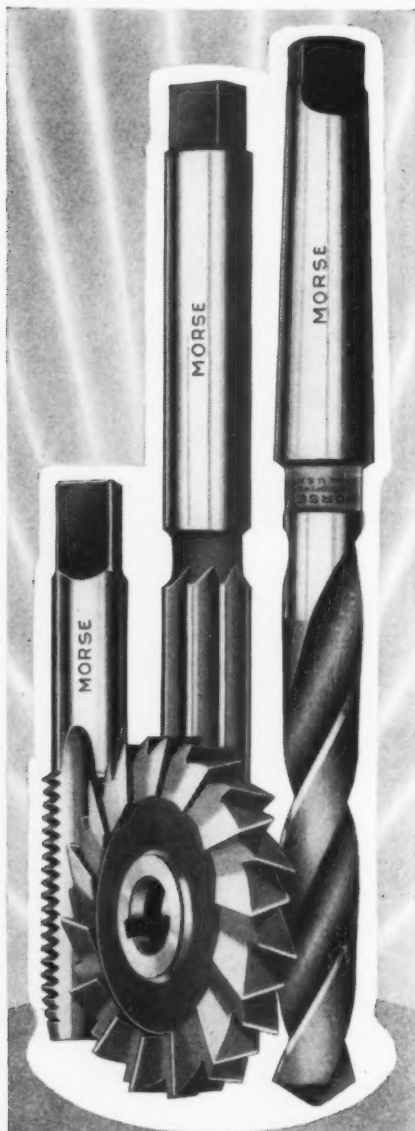
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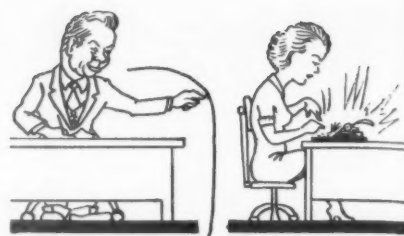
Small Cotton Producing Countries Are a Factor in World Trade

Small cotton producing countries such as Mexico, Peru, Argentina, Persia, Korea, and others, are significantly contributing more to the exportable surplus of cotton than are India, Egypt or Brazil, according to a careful analysis of the export trade in cotton compiled by Bernard Gelles of E. J. Schwabach & Co.

The report points out that the cotton producing countries themselves consume almost 58% of their own production. Neither Russia nor China have at this time an exportable surplus, and the two countries are self-sustaining so far as cotton is concerned. Egypt produces grades of cotton not directly competitive with American, and India turns out short staple types differing from American Texas or Bowed or Uplands. The true competitors of the American product are Brazilian cottons and those produced in the numerous small nations where production has expanded steadily in recent years.

"The facts," he concludes, "indicate that it would not be altogether justifiable to charge Washington with all the difficulties which have arisen in the cotton trade. Many features have been developing for years which have culminated only recently, as shown by the large production of 'other countries,' by Russia's supplying all her own needs, and by the advent of Brazil as an exporting cotton country. It might well be that the policies adopted in Washington have accentuated these trends, but the figures show that it would have been very difficult to have stopped them altogether. Certain currents in world affairs will go on and cannot be controlled or arrested by economic counter-measures.


"If a lesson is to be drawn from this experience, it is that the growers in the South must make up their minds to furnish the world with a superior product at a reasonable price. Nothing else will recover for them the lost markets."



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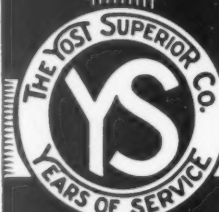
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**LOOSE LEAF
CESCO
EQUIPMENT**

Purchasing Conference

The annual conference of the Society for the Advancement of Management, held in New York City, December 9th, included a session devoted to purchasing in its relation to office management. Albert Pleydell, First Deputy Commissioner of the Department of Purchase, City of New York, and Vice President in charge of the Purchasing Division of the Society, presided at the meeting, which included four speakers on various phases of the general topic.

Prof. Coleman Maze of the Department of Management, New York University, presented the general background of office management problems as they relate to purchasing.

Joseph P. Smith, Manager of the Bureau of Methods and Equipment, New York Employing Printers Association, discussed the possibilities of effecting economies and increasing office efficiency by utilizing more fully the technical facilities of printing establishments.

Stroud Jordan, Chief of the Bureau of Standardization and in charge of the Central Testing Laboratory, New York, discussed the importance of testing the materials and supplies purchased for office use so as to insure receipt of the proper quality.

Fritz A. Wynhausen, Vice President of Office Machines Research, Inc., presented the relationship between purchasing office equipment and the need for careful study both of the proper type of machines for the work to be done and the relative merits of the different makes of machines available.

GEORGE P. GRIFFIS has been appointed purchasing agent and building manager of the Oregonian Publishing Co., Portland.

JOHN TANNER, Purchasing Agent of the Austin Bridge Co., Dallas, has been appointed Vice President of the Servis Equipment Co., of the same city, an affiliated organization. Mr. Tanner is a past president of the Dallas Association.

Catalog File

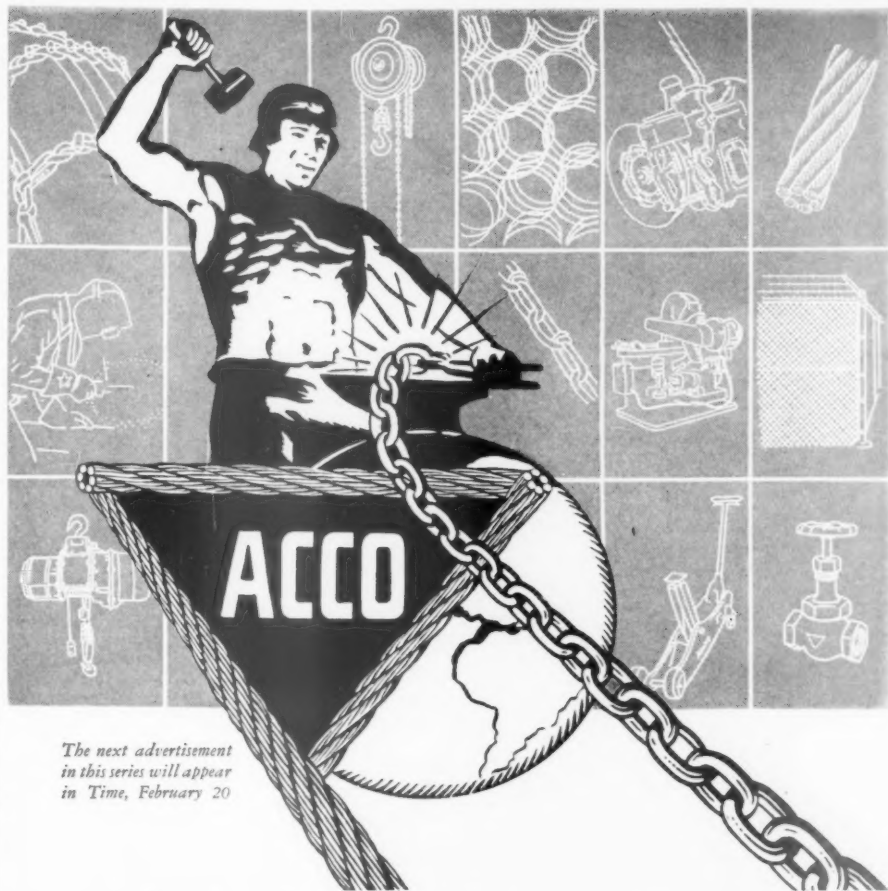
A simple catalog filing system that is closely integrated with the source of supply file is successfully used in the purchasing office of the Mengel Company, Louisville, where it has proved its usefulness and flexibility over a period of several years.

The catalogs themselves are kept in a bank of sectional bookcases, twenty-five sections being required to house the complete set of more than fifteen hundred. It has been found impracticable to attempt any consistent classification by subject or by size, but each catalog is identified by number before being placed in the file and the arrangement is in numerical sequence. The number is clearly marked on the back of each volume. Leaflets, price lists, and similar publications which logically belong in the file but which are not physically adapted to such marking or storage, are placed in individual letter folders, which are assigned numbers in the usual way and are filed in the regular sequence. Thus every individual sheet or book has its own identifying number and its place in the file.

The index to this material is contained in a loose-leaf book having two complete sets of alphabetical index tabs. In the first section of this book are listed the names of all suppliers who have catalogs on file, with the number denoting the location of their catalogs.

The second section is a commodity index, listing the names of vendors capable of supplying any particular item, as in any source of supply file. Since many vendors would naturally appear under a number of different product classifications, as in the case of a general distributor of mill supplies, this system permits complete indexing with a minimum of duplication. The vendor's name and catalog number appear only once in the first section of the book, which is the direct reference index, but there can be as many commodity listings as desired for convenience, all directing attention to this supplier and thus to the catalog number.

When a new catalog is received, a notation is made on the flyleaf,



The next advertisement in this series will appear in Time, February 20

Industry needs more assurance in buying than price alone . . .

● It is perhaps significant that so large a percentage of American Chain & Cable products move from the maker to the user with so little discussion of price.

This may be due to the Company's good fortune in winning and holding the confidence of careful, analytical buyers.

To the Company's customers the deeper meaning of "In Business for Your Safety" includes many definite assurances against personal risks and business hazards.

Prevention of accidents is one. But the Company's 137 products, from Weed Tire Chains to Tru-Lay Preformed Wire Rope and other ACCO Quality Products, provide "safety" in additional forms. Among them are dependable delivery—reduction of breakdowns and delays—maintenance of production schedules—security of the investment.

On such a foundation the American Chain & Cable Company will continue to build in the future—as it has in the past—for Good Will, Confidence, Permanence.

AMERICAN CHAIN & CABLE COMPANY, Inc.

BRIDGEPORT • CONNECTICUT



AMERICAN CHAIN DIVISION • AMERICAN CABLE DIVISION • ANDREW C. CAMPBELL DIVISION • FORD CHAIN BLOCK DIVISION • HAZARD WIRE ROPE DIVISION • HIGHLAND IRON AND STEEL DIVISION • MANLEY MANUFACTURING DIVISION • OWEN SILENT SPRING COMPANY, INC. • PAGE STEEL AND WIRE DIVISION • READING-PRATT & CADY DIVISION • READING STEEL CASTING DIVISION • WRIGHT MANUFACTURING DIVISION • IN CANADA: DOMINION CHAIN COMPANY, LTD. • IN ENGLAND: BRITISH WIRE PRODUCTS, LTD. • THE PARSONS CHAIN COMPANY, LTD. *In Business for Your Safety*

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SAMPLE BAGS
BOTTLE CASES
BRIEF CASES
DISPLAY CASES
CAMERA & PROJECTOR CASES
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When requesting quotations specify;
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fibre or canvas, color, quantity, size
and if possible submit sketch for style.

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29 West 34th Street

NEW YORK CITY

indicating the one or more commodity listings under which it should appear, and these entries are made in the index before the book is filed. If it is a new edition, supplanting previous material that is now out of date, it is assigned the same number as that of the catalog which it replaces, and takes that position in the file without the necessity of any revision in the index. If it is wholly new material, it is simply given the next available number. In this way the entire file is devoted to current material only, and it is capable of expansion to any extent without rearrangement of the shelves or index.

There is no necessity for indicating any particular shelf location, and no confusion such as might arise if the material were kept partly on shelves and partly in a vertical file, for the numerical sequence automatically provides for easy finding. Reference is quick, simple, and complete, whether for a particular vendor's catalog or for a general reference to the complete file on some class of material on which information is required.

B. BREWSTER JENNINGS, formerly purchasing agent for the Standard Oil Co. of New York, and now assistant to the president of Socony-Vacuum Oil Co., has been elected to the board of directors of the latter company.

MARVIN L. WESTMORELAND has been appointed director of purchases and finance for the City of Greenville, N. C. He resigned as municipal accountant at Charlotte to accept the new appointment.

WILLIAM MADDOCK has been appointed purchasing agent of the Southern California Gas Company, Los Angeles, succeeding G. W. CARBEE, who becomes manager of the company's Southern Division, with headquarters at Compton, Cal. Mr. Maddock has been storekeeper for the company.



Because of its Silvery White Color

BECAUSE of its silvery white color and excellent corrosion resistance, as well as its fine spinning and drawing qualities, Seymour Nickel Silver is the basis of much of the silverware manufactured.

When finally exposed by wear, it matches the plating, leaving no unsightly contrast. Available in any hardness, its ductility can be gauged to any spinning, drawing or stamping need. Supplied also in spring tempers and alloyed with lead for free milling. Would you like samples for test?

**SEYMOUR
NICKEL SILVER**

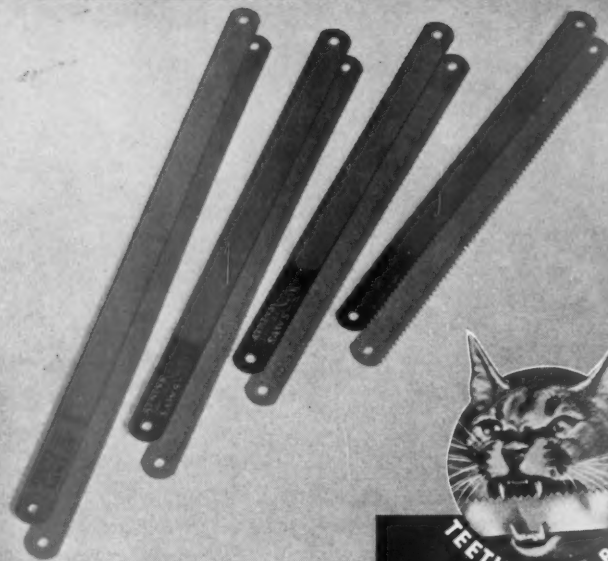
THE SEYMOUR MANUFACTURING CO., 55 Franklin Street, SEYMOUR, CONN.

Specialists in Nickel Silver and Phosphor Bronze

You Buy Fewer When You **STANDARDIZE on ATKINS**

• "Durability" is a commonplace claim in the P. A.'s everyday experience—but applied to hack saw blades it is the very heart and core of their value. It actually determines the cost to the user. By the *durability* of Atkins "Blue Ends" the number of blades used on a given quantity of work is reduced. The special temper of Atkins "Silver Steel" and the tooth-design developed over Atkins' 82 years making saws offer an amazingly long low cost performance per blade, on even the most exacting work. Write for data sheet helpful in selecting sizes according to type of work.

E. C. ATKINS AND COMPANY, 446 S. Illinois St., Indianapolis, Ind.



BLUE END HACK SAW BLADES
OF *Silver Steel*

YELLOW END HACK SAW BLADES
OF *Molybdenum*



ATKINS
Silver Steel
SAWS

CERTIFIED SAWS, SAW TOOLS,
MACHINE KNIVES, ETC.

Obituary

JOHN H. KNAPP, 44, vice president and general manager of the Norge and Detroit Vapor Stove divisions of the Borg-Warner Corp., died at his home in Detroit, December 2nd. Mr. Knapp was director of purchases for the Canadian Products Division of General Motors at Walkerville, Ont., from 1919 to 1923, and purchasing agent of the Detroit Gear & Machine Co. from 1923 to 1926, when he assisted in organizing the Norge Rollator Refrigerator Co., later merged with the Borg-Warner Corp.

WALTER J. H. KING, Purchasing Agent of the Wells Fargo Bank, San Francisco, died December 14th.

ALBERT KNIGHT COMLY, first director of purchases for the Pennsylvania State Liquor Control Board, to which office he was appointed in 1933, died at his home in Germantown, Penna., December 18th, after an illness of several months' duration.

WILLIAM B. SWIFT, 69, Purchasing Agent for the International Harvester Co., Chicago, up to the time of his retirement from active business, died December 20th at the Wesley Memorial Hospital.

HENRY H. KOHN, 77, Purchasing Agent for the State of Illinois under three governors, died December 23rd at his home in Anna, Ill., after a long illness. A native of Germany, and orphaned at the age of seven, Mr. Kohn came to this country as a boy of fourteen. Four years later he was in business on his own account and active in public affairs. Appointed to the State Board of Administration by Gov. Lowden in 1917, he subsequently headed the State Purchasing Department. He was reappointed by Gov. Small in 1921, and in 1929 Gov. Emmerson named him Director of the State Dept. of Purchases and Construction, where he served until 1933.



DAYTON GRINDING WHEELS

Regardless of your requirements, you can obtain a Dayton abrasive wheel of the exact specifications the work demands. On the market for years and the preference for a wide range of operations. Write

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Simonds-Worden-White Co.
Dayton, Ohio
FACTORIES AT: Dayton, Cleveland,
Beloit, Buffalo

THE MILLER LINE



is Superfine

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CARBON PAPERS **ESTABLISHED 1896**

FOR THAT FINE FEELING

—which you desire to inspire in the readers of your typewritten messages, produced by typing, multigraphing, mimeographing, hectographing—

THE MILLER LINE WITHSTANDS COMPARISON

Manufactured exclusively by

THE MILLER-BRYANT-PIERCE COMPANY
225-235 RIVER ST., AURORA, ILLINOIS

A word will bring our certified Representative. Or, send us your paper forms for expert analysis and recommendation of proper ribbons, carbons, stencil inks.

**Fabrication and Erection of Complete Steam
and Process Piping Systems**

**Welded Stainless Steel Piping,
Tanks and Vessels**

PITTSBURGH PIPING & EQUIPMENT CO.
10 FORTY-THIRD ST. PITTSBURGH, PA.

Branch Offices and Representatives in Principal Cities

**Wider Markets for
Rubber Products**

While tires are, and at least for some years will continue to be the item produced in largest volume by the American rubber industry, there is every indication today that, with new and important products being developed, and with new applications of a highly diversified nature being made, the industry stands on the threshold of a significant period of expanding markets, according to

a statement by David M. Goodrich, Chairman of The B. F. Goodrich Company. Advances made in research and engineering within the industry constitute the most important basis for this forecast.

Scientific studies have already created applications of rubber to more than 32,000 different articles. New markets have been opened in the huge transit industry. 800 street cars in this country are now equipped with rubber springs and

"sandwich" rubber wheels. Experimental installations of rubber springs for automobiles and subway cars are well advanced, and a revolutionary subway car incorporating many new rubber applications is to be introduced early this year.

Recent discoveries of synthetic rubber-like materials are expected still further to expand the field of rubber manufacturers. In certain respects, and for specific purposes, the properties of some of these materials excel even those of natural rubber, as for example, the fact that they do not deteriorate upon contact with oil. Compounded of such substances as coke, limestone and salt, one of these materials (Koroseal) is now being applied to all kinds of fabrics to make them not only waterproof, acidproof and sunproof, but odorless as well. Already used for a great variety of retail goods, it is as easily adaptable to industrial needs such as transmission and conveyor belting, electrical insulation, tank linings, and many other purposes.

Another significant development is the increasing utilization of products of the rubber industry in the automotive, rail, aviation, furniture, upholstery and related fields, resulting in greater comfort, silence, and resistance to wear.

Continuous progress has also been made in the major field of tires. Particularly notable has been the trend toward the use of rubber tires on farm vehicles. It is estimated that 60% of all farm tractors built during 1938 were shod with rubber tires instead of steel. Three years ago, only 14% of farm tractors were so equipped.

Newly aroused public consciousness of the hazards involved in driving on smooth tires, as the result of vigorous educational campaigns by safety organizations, and the present availability of tires with scientifically designed treads that effectively perform the function of skid prevention, have materially aided in reducing this serious public hazard, and the new tread designs will be extensively used both for original equipment and replacement sales in the expanding automobile market of 1939.

Improving Quality of Deliveries

(Continued from page 33)

They were assured we were asking nothing of them. It was explained that as a routine matter for exercising better buying judgment, we were keeping a record of every test made and would accumulate these under each supplier's name. Periodically, they would be totalled and averaged individually, thus permitting us to determine which mill consistently supplied us with the greatest proportion of wire having the highest percentage of characteristics most suitable for our requirements, which were well known. It was further explained that many statements were made by representatives as a reason for placing more business with their company; that we intended to substantiate or disprove many of them and be guided in allotting our orders on his basis rather than the claims of salesmen.

The result was incredible. Before the plan was made effective, 50% of this particular grade of wire, although meeting all generally accepted specifications, was definitely below our goal. After the plan was placed in effect, no shipment from any supplier ever again ran less than 90% above any standard we had previously sought and the other 10% open only to a suspicion of not quite meeting our ideals; thus proving that although it couldn't be done, they all did it without ever mentioning price.

Now it is not contended that everything can be bought on this basis; but an effective means has been found for buying materials far surpassing previous or present conceptions of quality as expressed in the generally accepted standards of those raw materials which we regularly buy in volume.

FRANK C. CLEMENS, Purchasing Agent of The Cargill Co., W. L. CHILDS of Reed Roller Bit Co., and RALEIGH HORTENSTINE have been appointed to the Board of Directors of the Houston Chamber of Commerce for 1939.

Worth looking up to



The File with the

RED TANG

Its new "metal saw" teeth make an easier cutting file. Chips roll off in coils. Cuts more metal with each stroke.

Increases production.

SOLD BY SELECTED
SUPPLY DEALERS

Ask for them!

SIMONDS
FAMOUS FAMILY OF
METAL CUTTING
TOOLS

SIMONDS SAW AND STEEL CO
ESTABLISHED 1832 • FITCHBURG • MASS

Among the Associations

DECEMBER 1

Birmingham—Luncheon meeting of the **Birmingham Association**, at the Redmont Hotel. Speaker: W. C. McMurry, General Manager, Birmingham Traffic Association, "Transportation."

Seattle—Plant visit of the **Washington Association** and ladies, at the National Biscuit Co.

San Francisco—Luncheon meeting of the **Northern California Association**, at the Palace Hotel. Speaker: Prof. W. F. Gericke, "Hydroponics—the Art and Science of Crop Production without Soil."

DECEMBER 2

Los Angeles—Stag party and Hi-Jinks of the **Los Angeles Association**, at the Elks Club, sponsored by the San Francisco Convention Committee.

Portland—Meeting of the **Oregon Association**. Speaker: W. C. Ruegnitz, Chairman of the Wages and Hours Committee, Portland Chamber of Commerce, "The Fair Labor Standards Act." Mr. Ruegnitz, now associated with the Columbia Basin Sawmills, was a charter member and first president of the Oregon Association, and holds honorary membership in the organization.

DECEMBER 2-3

Chapel Hill, N. C.—Meeting of the **Carolinas-Virginia Association**. C. F. Williams of the Erwin Cotton Mills presided at the Friday business session, held at Carolina Inn. Speakers included O. G. Sawyer of Duke University, J. H. Arthur of Hannah Pickett Mills, W. G. Thomas of Duke Power Co., G. M. Hill of University of North Carolina, W. W. Irwin of Rochester, District Vice President, N.A.P.A., and President Robert Porter and Secretary Harold I. Patten of the Philadelphia Association. The meeting was followed by a reception to Messrs. Irwin, Porter, and Patten, and by dinner in the banquet room of the University of North Carolina. In the evening, members attended the Duke University symposium on law and contemporary problems, at which Prof. Harold J. Laski of London and Senator Arthur H. Vandenberg were the speakers.

At the Saturday morning session, the speakers were President Frank P. Graham of the University of North Carolina, Vice President R. L. Flowers of Duke University, Arthur C. Goodwin of Proximity Mfg. Co., and J. W. Knowlton, Association economist. The annual golf tournament was held Saturday afternoon at Hope Valley Country Club, Durham, with an alternative choice of a tour of the two Universities. Informal banquet at Hope Valley, followed by the

closing session of the Duke University symposium at which Walter Lippman, columnist and commentator, and John M. Dickinson, formerly Assistant Secretary of Commerce, were the speakers.

The following officers were elected for 1939: *President*, C. W. Coker of Sonoco Products Co., Hartsville, S. C., succeeding J. J. Barnhardt of Cannon Mills, Kannapolis; *Vice President*, G. Maurice Hill, University of North Carolina; *Secretary-Treasurer*, R. V. Spangler, Mill Power & Supply Co., Charlotte; *National Director*, Hext M. Perry, Greenville, S. C.; *Alternate National Director*, W. G. Thomas, Duke Power Co., Charlotte.

DECEMBER 5

Houston—Luncheon meeting of the **Houston Association**. Speaker: H. J. Luhn, general manager of the Houston Compress Co.

DECEMBER 6

Oakland—Luncheon meeting of the **East Bay Group Northern California Association**, at the Lake Merritt Hotel. Speaker: Hon. Chris B. Fox, Justice of the Police Court, City of Oakland, "Safety Enforcement as Seen from the Bench."

DECEMBER 7

Los Angeles—Luncheon and plant visit of the **Los Angeles Association**, at the Payne Furnace & Supply Co.

DECEMBER 8

Chicago—Dinner meeting of the **Chicago Association**, at the Sherman Hotel. Speaker: Congressman Samuel B. Pettengill of Indiana.

San Francisco—Luncheon meeting of the **Northern California Association**, at the Palace Hotel. Speaker: Robert Gros, Pacific Gas & Electric Co., "Personality Portraits."

Philadelphia—Annual meeting and Christmas party of the **Philadelphia Association**, for members and boys, at the Bellevue-Stratford Hotel. Speakers included Judge Harold B. Wells of the New Jersey Circuit Court of Appeals; Robert Hall, Philadelphia attorney who is a football scout for Yale University, presenting motion pictures of important games of the recent season; and R. E. Kinney of Trinity, prominent football official. Harry F. Keller of James Lees & Sons Co., and Charles P. Cochrane Co., was installed as president of the Association for 1939, and the annual golf award for 1938 was made to Harry Rowbotham.

Dallas—Luncheon meeting of the **Dallas Association**. Speaker: Judge Paine Bush, who discussed the program of the Bush School of Oratory.

Dayton—Plant visit and dinner meeting of the **Dayton Association**, at the Standard Register Co. Motion picture on the steel industry, with Edwin C. Hill as narrator.

Seattle—Dinner meeting of the **Washington Association**, at the Olympic Hotel. Discussion of the Fair Labor Standards Act and its effect on buyers and sellers, led by Watt Fallis of Kenworth Motor Truck Corp., Harold R. Morrison of Union Oil Co., and Hall Johnson of Washington Cooperative Egg & Poultry Association. Sound motion picture, "The Story of Fourdrinier Kraft," presented by courtesy of the California Container Corp.

Birmingham—Luncheon meeting of the **Birmingham Association**, at the Redmont Hotel. Discussion of the Wage-Hour Bill, led by George Wilson.

DECEMBER 9-10

Greenville, S. C.—Annual meeting of the **Educational Buyers Association, Southern Group**, at Furman University. There was a tour of inspection of the campus and the Shrine Hospital on Friday afternoon, followed by a dinner meeting in the dining hall of the Women's College, at which Dr. R. N. Daniel, acting president of Furman, welcomed the delegates, and Hext M. Perry of Greenville led a discussion of purchasing problems.

The principal business session was held Saturday morning, at the Poinsett Hotel. Speakers: O. G. Sawyer, Duke University, "Contracts Used by Our Southern Group;" Capt. J. D. Harcombe, Clemson College, "Purchasing Janitors' Supplies;" B. C. Kinney, University of Georgia, "Boiler Feed Water Treatment;" W. Frank Taylor, Jr., University of South Carolina, "Purchasing Policies, Chemical and Apparatus Supplies;" G. M. Hill, University of North Carolina, "General Purchasing Procedure;" J. B. Paysinger, Columbia College, "Practical Suggestions for Cutting Operating Costs." General discussion covered the following topics: spray paint machines, stair treads, sound film projectors, wall paint, floor treatment, plant and equipment depreciation, approval of invoices.

S. W. Garrett, Purchasing Agent for Furman University, was in charge of local arrangements.

DECEMBER 9

Allentown—Annual dance of the **Lehigh Valley Association**, at the Americus Hotel. Terry Neil was chairman of the committee in charge.

DECEMBER 10

Portland—Annual dance of the **Oregon Association**, at the Heathman Hotel.

JANUARY 1939

THIS BOOKLET



TAKES THE HEADACHE OUT OF A MEAN PROBLEM

● You know how difficult it is when the sales manager demands a whole set of binders for a new demonstration portfolio . . . or somebody else wants a field manual or a catalog, or a swatch-book, or binders for an instruction course . . .

● They're always in a hurry, they always want them exactly right - - and all too often they don't know exactly what they want. They expect the P. A. to figure out *that* one.

● Well, this booklet helps a lot. It describes and illustrates the different *types* of binders, tells what each is especially adapted for, helps you pin the demanders down, so you will have something to go on.

● There's not much "sell" in it, but a lot of information. People who know National performance don't need much selling.

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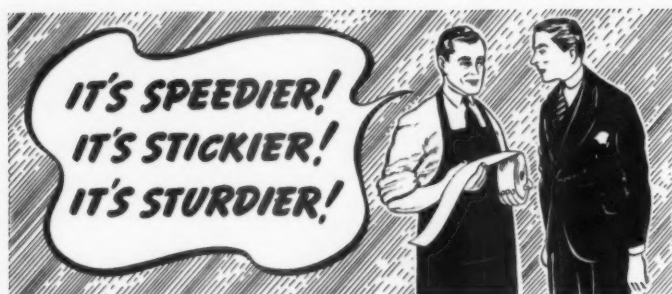


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469 Eighth Avenue NEW YORK, N. Y.

Tulsa—Annual dinner dance and President's-Ladies' Night of the **Tulsa Association**, at the Tulsa Club.

Bridgeport—Annual dinner and Christmas party of the **Purchasing Agents' and Salesmen's Association**, at the Stratfield Hotel. John Walters was master of ceremonies.

DECEMBER 12

Columbus—Joint meeting of the **Columbus, Dayton and Springfield Associations**, at the Columbus Athletic Club, in connection with the meeting of District Council No. 6. Speaker: Thomas D. Jolly of Pittsburgh, District Vice President of the N.A.P.A., "The Handbook and Its Relation to the Purchasing Agent's Problem."

New Orleans—Dinner meeting of the **New Orleans Association**, at the Jung Hotel. Speaker: Rene Stiegler, executive general agent for the New Orleans Dock Board, "The Port of New Orleans."

Reading—Dinner meeting of the **Reading Association**, at the Iris Club, Wyomissing. Speaker: Chapin Hoskins, industrial consultant, "Why Most Purchasing is Done at the Wrong Time."

DECEMBER 13

Saginaw—Annual meeting of the **Saginaw Valley Association**, at the Fordney Hotel. The following officers were elected for 1939: *President*, Ernest L. Reichle, Saginaw; *Vice President*, Thomas Plater, Saginaw; *Secretary*, Byron J. Lockwood, Saginaw; *Treasurer*, Edward Harris, Bay City; *National Director*, John Thompson, Midland.

Milwaukee—Dinner meeting of the **Milwaukee Association**, at the Elks Club. Speaker: Stuart F. Heinritz, Editor of PURCHASING, "Back to Competition."

Tulsa—Annual meeting of the **Tulsa Association**. Reports of the recent Chicago meeting of the American Petroleum Institute were given, and the following officers for 1939 were elected: *President*, C. D. Taylor of Barnsdall Oil Co.; *Vice Presidents*, H. E. Kaiser of Phillips Petroleum Co. and J. S. Hawley of Stanolind Oil & Gas Co.; *Secretary-Treasurer*, W. F. Taylor of Bethlehem Supply Co.; *National Director*, M. F. Bridges of Tide Water Associated Oil Co. H. M. Cosgrove and E. R. Welch were reelected as Executive Secretary and Assistant Secretary respectively.

Oakland—Luncheon meeting of the **East Bay Group, Northern California Association**, at the Lake Merritt Hotel. Speaker: William C. Paden, Superintendent of Schools, City of Alameda, "The Oregon Trail."

St. Louis—Dinner meeting of the St. Louis Association, at the Statler Hotel. Speaker: Fred J. Heaslip of Chicago, "To Buy or Not to Buy." The following officers were elected for 1939: *President*, William G. Smith of James R. Kearney Corp.; *Vice Presidents*, Herbert De Staebler of Lambert Pharmacal Co., and J. J. Sharkey of Western Cart-ridge Co.; *Secretary*, Paul O'Brien of Frank Adam Electric Co.; *Treasurer*, Irving O. Peppel of General Metal Products Co.; *National Director*, William Grossman of A. Leschen & Sons Rope Co.; *Executive Committee*, George H. Brown of Century Electric Co., Fred Wiesemann of Fred Medart Mfg. Co., and M. L. Jones of Obeare-Nester Glass Co.

New York—Dinner meeting of the Metropolitan Purchasers' Assistants Club, at the Hotel Great Northern. Speaker: Hartley W. Barclay, Editor of *Mill & Factory*, "Industrial Preparedness."

DECEMBER 14

Cambridge—Plant visit of the New England Association, at the Athenaeum Press of Ginn & Co.

Canton—Annual Christmas party and ladies' night of the Canton & Eastern Ohio Association, at the Onesto Hotel.

Kansas City—Annual meeting of the Kansas City Association, at the Hotel President. Officers for 1939 were elected as follows: *President*, W. E. Taylor of Western Light & Telephone Co.; *Vice Presidents*, J. M. Culver of Columbian Steel Tank Co., and Lloyd Farrell of American Dairies Co.; *Secretary*, R. C. Hopkins of Mid-Continent Paint & Lacquer Mfg. Co.; *Treasurer*, J. E. Bowes of Skelly Oil Co.; *National Director*, J. W. Reavley of Federal Reserve Bank.

Buffalo—Annual Christmas party of the Buffalo Association, at the Hotel Lafayette.

DECEMBER 15

Indianapolis—Annual Christmas Party of the Indianapolis Association, at the Columbia Club. Floor show, dancing, games, and Santa. R. C. Burnett was chairman of the committee.

Erie—Stag dinner and Christmas party of the Erie Association, at the East Erie Turners ballroom. Guests were present from Buffalo, Pittsburgh and Cleveland.

San Francisco—Luncheon meeting of the Northern California Association, at the Palace Hotel. Motion picture, "Approved by the Underwriters," presented through courtesy of the Underwriters' Laboratories, Inc.

Schenectady—Dinner meeting of the Eastern New York Association, at the Hotel Van Curler. Speakers:



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FLAT SUPER TOUGH LENSES
for... **RESISTANCE TO IMPACT**
FREEDOM FROM DISTORTION

Clear comfortable vision is just as essential to your Eye Safety Program as is the tough protective quality of your lenses and Willson **FLAT SUPER-TOUGH** Lenses provide both to the highest degree. Because they are Uniformly "heat-treated," Willson Flat **SUPER-TOUGH** Lenses provide maximum protection against Industrial Hazards, whether chips of steel, splashes of molten metal, chemicals or dust. Because they are **FLAT**, Willson **SUPER-TOUGH** Lenses are free from aberration and distortion. All Willson Flat **SUPER-TOUGH** Lenses are individually tested before shipment, and meet requirements which are far more severe than Federal Specifications.

Whether clear or Willsonite, the cool green scientific lens for glare protection, Willson Flat **SUPER-TOUGH** Lenses are used in a great variety of styles of Willson Safety Goggles and Spectacles. Identify them by these trademarks stamped on every genuine Willson **SUPER-TOUGH** Lens—

W—Clear **SUPER-TOUGH**
Wn—Willsonite **SUPER-TOUGH**
(Shades A, B, and C)

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RESPIRATORS
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RED STREAK
Vejo-Gummed
TAPE

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● Now packages and cartons containing food products can be more sanitary than ever before. The new Vejo-Gummed Red Streak Tape, with its all vegetable gumming that is odorless and tasteless, makes this possible. Write today for detailed information and sample roll... convince yourself of "Vejo-Gummed" superiority.

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TROY, OHIO





"That he who cuts may cut well."

LORING COES COMPANY
WORCESTER, MASSACHUSETTS

A. F. Clark of E. I. du Pont de Nemours & Co., "Synthetic Rubber"; Edmund W. Corrie of the State Bank of Albany, "The Trend of Interest Rates to Commodity Prices."

Springfield—"National Night" and annual Christmas party of the **Western Massachusetts Association**, at the Stonehaven Hotel. Speaker: George A. Renard, Executive Secretary of the N.A.P.A., "From One P. A. to Another."

Toledo—Annual Christmas party and dinner dance of the **Toledo Association**, at the Toledo Club.

Kalamazoo—Meeting of the **Kalamazoo Association**. Speaker: Roger Egan of the Bulkley, Dunton Pulp Co., New York, "Applying the Dow Theory."

DECEMBER 16

Worcester—Annual Christmas party of the **Worcester County Club**, held jointly with the Mercury Club, at Putnam & Thurston's. Raymond Smith was chairman of the committee.

Salt Lake City—Annual Christmas party of the **Utah Association**. W. L. Park of the Salt Lake City Board of Education was general chairman of the committee.

Vancouver—Christmas dinner dance and entertainment of the **British Columbia Association**, in the Spanish Grill, Hotel Vancouver.

Cincinnati—Annual Christmas party of the **Cincinnati Association**, at the Hotel Gibson. E. C. Frederick was chairman of the committee.

Los Angeles—Fourteenth annual family Christmas party of the **Los Angeles Association**, at the Elks Club. Tony Boggio was chairman of the committee on arrangements.

DECEMBER 17

Chicago—Sixteenth annual family Christmas party of the **Chicago Association**, in the Louis XVI Room of the Sherman Hotel. Turkey dinner, entertainment, games, and a personal appearance of Santa Claus. The committee in charge was E. Van Vechten, *Chairman*, E. W. Fitzgerald, and R. D. Barnes.

Cleveland—Christmas party and dinner dance of the **Cleveland Association**, at the Hollenden Hotel. Floor show and favors. Vince Cada was chairman of the committee in charge.

Newington, Conn.—Stag Christmas party of the **Connecticut Association**, at the Indian Hill Country Club. Steak dinner, entertainment and prizes. New officers for 1939, as elected at the November meeting, were installed.

Dallas—Meeting of the District Council No. 2, N. A. P. A. C. S. Worley of Oklahoma City, District Vice President, presided.

St. Louis—Annual Christmas party of the St. Louis Association, at the Coronado Hotel. Ben Jostrand was chairman of the committee on arrangements.

DECEMBER 19

Boston—Annual Christmas party of the New England Association, at the Hotel Statler. R. E. Winslow was general chairman of the committee in charge.

Houston—Annual Christmas party of the Houston Association. Owen Story was in charge of arrangements.

DECEMBER 20

Birmingham—Annual Christmas party of the Birmingham Association, at the Birmingham Country Club. The committee in charge consisted of Michael N. Hoke, *Chairman*, T. M. McClelland, Jr., Allen Rushton, and L. C. Teague.

New York—Beefsteak dinner and Christmas party of the New York Association, at the Builders' Exchange Club. Door prizes and entertainment.

Pittsburgh—Dinner dance and Christmas party of the Pittsburgh Association, at the Pittsburgh Athletic Association.

Fort Worth—Dinner meeting of the Fort Worth Association, at the Worth Hotel. Speaker: O. T. Clark of the Community Public Service Co., "Importance of Building Good Will by the Purchasing Agent."

DECEMBER 21

Detroit—Dinner meeting of the Detroit Association, at Webster Hall. Speaker: Judge Clyde I. Webster.

Rochester—Annual Christmas party of the Rochester Association, at the Rochester Club. Dinner, entertainment, and prizes. Bert Bayer of F. L. Heughes & Co. was chairman of the committee.

DECEMBER 22

San Francisco—Annual Christmas luncheon of the Northern California Association, at the St. Francis Hotel. Entertainment. Walter Levy was chairman of the day, and Ralph W. Myers presided at the meeting.

DECEMBER 31

New Orleans—New Year's Eve party of the New Orleans Association, at the Jung Hotel.

JANUARY 1939

New MALLEABLE IRON BASE for GREATER SERVICE and Safety!

Simplex introduced the major improvements in Screw Jacks—Simplex now introduces the Malleable Iron Base. Now you get greater protection than ever against breakage from rough handling; greater safety; reduced weight; at no extra cost!

Other exclusive features include: self-leveling drop forged cap with 9° float; safety peep-hole in base to prevent turning screw out too far; faster raising and lowering with 88% less friction because of the centralized ball bearing.

Write for bulletin on Simplex Malleable Iron Base Screw Jacks or catalog covering the most complete line of the sturdiest, most efficient screw, lever and special Jacks made.

Stocked by your supply house.

TEMPLETON, KENLY & CO.
CHICAGO



Don't say "Jack"—say
SIMPLEX

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Delivery is prompt.

Forgings are to exact specification.

All types and sizes of forgings—hammer, drop, upset—made in one plant.

Vast stocks of specification steels always on hand. Complete heat treating and machining facilities for producing forgings ready to use.

The replacement parts business is fine until it hinders product sales. Forgings eliminate equipment failures resulting from tensional, torsional and compression stresses that cannot be withstood by less suitable parts.

Our sales engineer will be glad to go over your product and make recommendations that may cut your replacement parts sales, but increase your product sales! There's no time like now to improve your product and a change-over to forgings frequently cuts costs.

Write for a copy of "100 Years of Forging Service."



Kropp's stock of over 500,000 forged steel flanges of all types and sizes is described in this stock list. Get a copy!

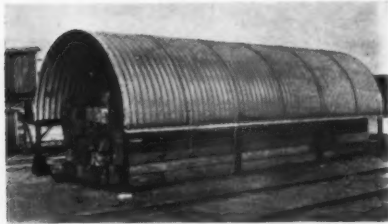
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NEW PRODUCTS & IDEAS



ARCHED METAL COVER

No. 711

ORIGINALLY DEVELOPED FOR a Pennsylvania coal mining company for use in protecting large timbers required for mining operations, this corrugated arched metal cover is now proving its utility for similar use with many other products that must normally be stored in the open but which are subject to damage from the weather. Among the many applications are the covering of large and expensive timbers, bulky machinery and equipment, building materials on location and the like. The covers are supplied in a range of sizes with a width or span of from 5 to 16 feet, and in lengths of 10 feet in multiples of 2½ feet, thus enabling the user to obtain covers closely fitted to his requirements.

Use coupon below



TOOL CABINET

No. 712

A CONVENIENT AND USEFUL piece of shop equipment is this "tool wagon," combining tool storage space, complete portability and a working surface at location. The top drawer and front panel are both equipped with locks. The panel slides

back out of sight uncovering another drawer, 2½ inches deep and with three permanent welded partitions, a shelf carrying two tote trays and an open space below for larger tools and equipment. The top of the cabinet, supplying a working surface, has a removable corrugated rubber mat. The overall dimensions of the unit are: 24½ inches wide, 15¾ inches deep and 29 inches high. Mounted on casters, it is readily moved to the job. Finished in baked green wrinkle, with chromium plated locks.

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SELF- LIFTING STEAM GUN

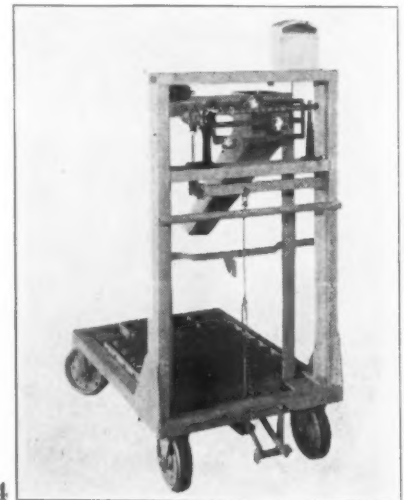


No. 713

NEWLY IMPROVED AND developed for the speedy removal of heavy accumulations of dirt, grease and oil deposits from all kinds of industrial machinery and equipment, this steam gun introduces the self-lifting feature, automatically lifting the cleaning solution from floor level to a height of over 10 feet without the use of pumps, injectors, gravity feed or other auxiliary apparatus. All that is needed is the necessary steam and solution hoses, steam supply and an open top drum or other solution container. Made in two sizes, the smaller being 3½ feet in overall length, weighing 5¾ lbs., adapted for use on automotive equipment, floors and ordinary factory machinery; the larger size, 7½ feet in length, 13¼ lbs., for use on the heaviest operations where a long gun is required to reach the highest parts being cleaned.

Use coupon at left

PORTABLE PLATFORM SCALE



No. 714

THIS SPECIAL PURPOSE platform scale is designed for use in weighing out a number of different materials into a container resting on the scale platform. It is equipped with rubber-tired roller-bearing wheels for ready positioning at the various bins, and a brake to prevent movement when the container and scale are in position. The scale beam is connected to an over-and-under dial, and application is made according to a cumulative weight schedule, the operator setting the scale to the desired

PURCHASING

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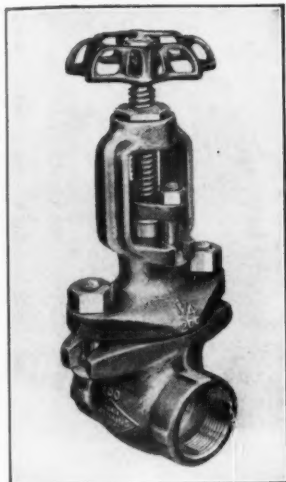
Company.....

Address.....

City..... State.....

weight at each of the respective bins and stopping the flow when the indicator moves to the "complete" position, and repeating this procedure at each successive bin, until the final cumulative weight has been delivered into the container. The platform has rollers to facilitate handling of the heavy loaded container.

Use coupon page 54

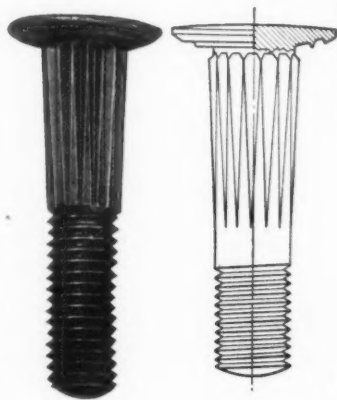


CORROSION-RESISTING VALVES

No. 715

A NEW LINE OF VALVES has been developed in highly corrosion-resistant stainless steels, two alloys being used—Cooper 18-8 S and Cooper 18-8 SMO, each having a carbon content limited to a maximum of $\frac{1}{10}$ of 1 %. The latter is recommended for most severe conditions and is particularly adapted to sulphite pulp mills. The valves are available in seven different styles—solid wedge or double disc gate valves, union or bolted bonnet regrinding globe or angle valves, and bolted bonnet Y valve; all either screwed or flanged, and in sizes from $\frac{1}{2}$ to 3 inches.

Use coupon page 54



WEATHER-TIGHT BOLTS FOR WOOD

No. 716

TWO INNOVATIONS IN design make these weather-tight bolts particularly adapted for use in locations exposed to severe conditions of weather, where the introduction of moisture would lead to rotting of the wood structure. A tapered splined shank makes these bolts fit the bored hole like a cork in a bottle, and a double rib on the under side of the head compresses the wood fibers and makes a double seal against moisture. In use, the bolts are drawn down flush without counter-boring, thus presenting a smooth and weather-tight surface without protruding bolt heads or any lodging place for dirt which attracts moisture. Developed for specialized use in the railroad field, for sheathing, running boards and flooring of box cars, the device is equally effective for loading platforms, wood tanks, outdoor furniture and equipment, floors, bolted sidings, etc.

Use coupon page 54



IT PAYS TO AVOID TIRING STRAIN

Seat All Workers at Height That's Right

3rd Comfort Feature Steps Up Efficiency

Kewaunee Ever-Hold Stools and Chairs have "comfort shape" in seats, "comfort support" in backs, and the third comfort feature "comfort working height," the most important of all. No wonder workers keep up speed and still have pep and a smile at quitting time. Kewaunee Ever-Hold Chairs are instantly adjustable to any height without use of tools or gadgets. Every worker can adjust his own chair to the height that's right for him. Write for Special Folder, prices and Discounts on—



Chair B-1721
Adjustable from
17 to 21 inches

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Pumps from $1\frac{1}{2}$ g.p.m. to 150,000 g.p.m.

Scales that weigh anything from .002 oz. to 1,000,000 lbs.

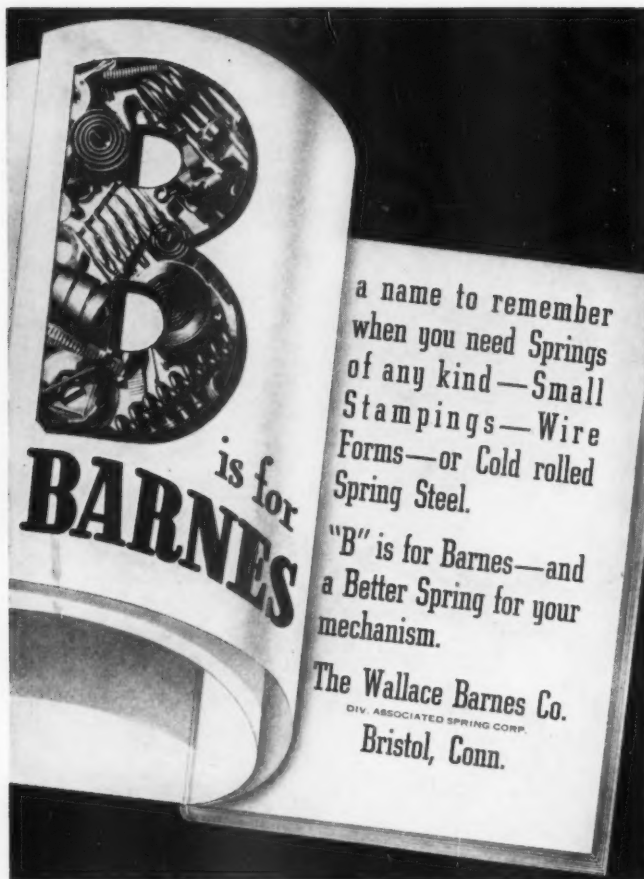
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a name to remember when you need Springs of any kind—Small Stampings—Wire Forms—or Cold rolled Spring Steel.

"B" is for Barnes—and a Better Spring for your mechanism.

The Wallace Barnes Co.
DIV. ASSOCIATED SPRING CORP.
Bristol, Conn.

for DRILL PRESSES
Large Holes at Low Cost

Accurate enough for drill press use. Strong enough to stand up on steady production work **MARVEL HOLE SAWS** cut cost of large holes. They increase the capacity of small drill presses for they require less power than equivalent sizes in drills. Genuine 18% Tungsten High Speed Steel edge . . . Unbreakable alloy steel body.




MARVEL High-Speed-Edge HOLE SAWS
Manufactured and Guaranteed by makers of the patented, unbreakable **MARVEL High-Speed-Edge Hack Saw Blades.**

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"The Hack Saw People"
5760 Bloomingdale Ave., Chicago, U.S.A.
Write for circular

KRON
DIAL SCALES
for industry's every need

THE KRON CO.
BRIDGEPORT CONN.



PAGE 56

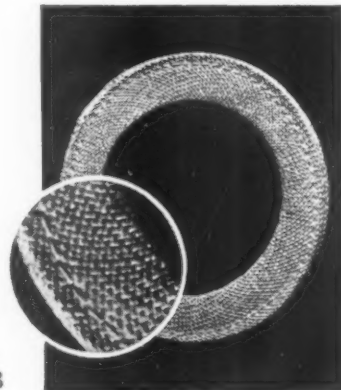
WELDING GLOVES



INCORPORATING SEVERAL NEW and patented features, this welder's glove is made with one-piece back of chrome tanned leather extending from the knuckles to top edge of gauntlet, eliminating all seams on the back of hand, which frequently rip or burn out on ordinary gloves. This construction also provides extra leather protection for the knuckles, besides the lining of heavy cotton fleece. No lining in the palm assures the operator of proper "touch" at all times. The thumb seam is protected with extra leather strap and the seam attaching hand to cuff is reinforced by a leather apron extending the whole width of the glove. Extra full pattern assures cool and comfortable protection at all times, and special tannage resists shrinkage and hardening, and keeps the glove soft and flexible under severe temperatures.

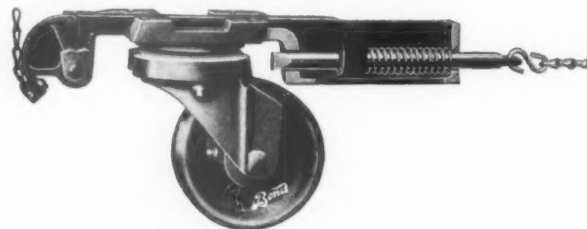
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ACID-PROOF GASKET



FOR ACID-RESISTING service in pipe lines and operating equipment, this new gasket is made of woven glass fiber, the same material being used for the reinforced outer edge and for the stitching that completes the assembly. The result is a soft, pliable and resilient gasket that resists the attack of all except hydrofluoric acid. Detail of the construction is indicated in the enlarged portion of the illustration. The gasket is available in sizes and shapes to specification.

Use coupon page 54



CASTER CONTROL

No. 719

A SIMPLE DEVICE WHICH adds greatly to the ease and safety of handling trucks and racks equipped with swivel casters, is this control for locking one pair of casters in position so that they may move only in a straight line. This eliminates weaving, facilitates steering without tugging or straining and is equally effective whether the load is being pushed or pulled, fre-

PURCHASING

quently permitting one-man operation instead of two-man. The control can be instantly and easily applied or released. It is made in two models. For foot operation, a pedal at either end serves to lock the two connected casters in line, and the release pedal returns them to free-swivelling position. In the hand operated model shown in the illustration, a chain from the caster unit is attached to the truck handle. Raising this handle locks the casters in line, and dropping the handle releases them.

Use coupon page 54

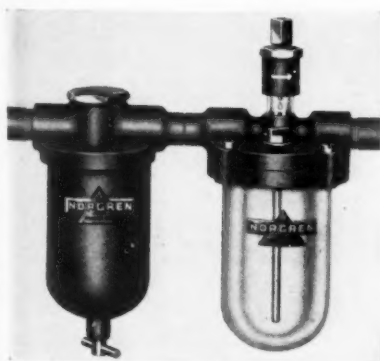


FILM VOICE RECORDER FOR OFFICE

No. 720

IN THIS NEW EQUIPMENT, the principles of electro-mechanical recording of sound on film have been applied to office dictation. A sapphire stylus cuts the dictator's voice on a strip of 16 mm. film. A switch transforms the machine from a recorder to a transcriber, and it will play back immediately, without processing, through earphones or through an amplifier. Up to 28 sound tracks can be recorded on one width of film, which reverses automatically in either direction without rerolling, so that about 80 minutes of dictation can be recorded on a single 100 ft. length of film. It is also useful for permanently recording telephone and verbal orders, conversations, and the like, and since it will play back up to 2,000 times it has additional applications in connection with sales talks, explanatory remarks accompanying motion pictures, etc.

Use coupon page 54



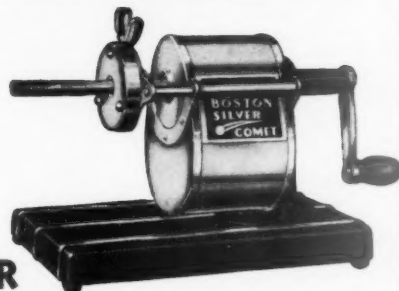
STRAINER AND LUBRICATOR

No. 721

COMBINING AN AIR STRAINER and sight feed automatic air line lubricator, this new device is designed to condition air for the efficient operation of air tools. The strainer consists of a 200-mesh monel metal screen supported by a 100-mesh brass screen. The effective straining area is five times greater than inlet and outlet openings, offering no restriction of air flow and no noticeable pressure drop. It removes dirt, scale and other impurities from the air stream and traps approximately 92% of the moisture. The sump may be blown out by turning the T-handle valve at the bottom, and screens are easily removable for cleaning by unscrewing the top. The lubricator has a transparent oil reservoir of resilient plastic, resistant to shock and suitable for use in temperatures up to 180 degrees. The transparent bowl permits a constant check on reserve supply of lubricant. Oil feed is controlled by a simple and tamper-proof adjustment on the needle valve, and new lubricant can be added even with the air line in use, without any blow-back or spray.

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BOSTON SILVER COMET PENCIL SHARPENER



PORTABLE—needs no fastening to desk or wall. Place it anywhere you need it. Saves steps, time and pencils, too.

EFFICIENT—Speed cutters (15 cutting edges), and a clever Point Adjuster for fine, standard, and semi-blunt points, as desired.

A smart addition to any office or factory. Be sure to ask your Local Dealer for the Silver Comet in this month's purchase list. All-metal base in black and nickel finish. AT YOUR STATIONERS.

C. HOWARD HUNT PEN COMPANY
CAMDEN, N. J.

The above model may be obtained with Draftsman cutters if desired.

BOSTON PENCIL SHARPENERS

Put your BREATHING HAZARDS up to SPECIALISTS!

Dependable Protection
for Dusts, Fumes, Gases,
Smoke, Spray Mists

Don't risk using the wrong
safeguard for dangerous
breathing conditions. Con-
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MORE THAN 40 TYPES for ALL NEEDS!



Complete line of respiratory
equipment, plus specialized ex-
perience, at your service to pro-
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PULMOSAN RESPIRATORS

THE MARKET PLACE



A quick review of the market noting major developments in supply, demand and prices of selected basic commodities

Supply

Demand

Market

BURLAP

SURPLUS STOCKS OF BURLAP at Calcutta rose unexpectedly in December, after the eighteen-month upward trend had been temporarily checked. They soared to the record total of 473.9 million yards, an increase of 156% for the year despite strenuous efforts at production control in the later months. Shipments to the U. S. were light, but stocks here are ample in relation to use requirements.

DOMESTIC CONSUMPTION DECLINED more than seasonally in November and December to less than 60 million yards per month, after a good October. Demand was routine and featureless, shipments close to the year's lows.

DESPITE UNFAVORABLE STATISTICAL developments in the industry, burlap prices strengthened somewhat in December and sentiment is fairly optimistic. Domestic quotations reflected foreign cables rather than any independent market strength. Spot prices on standard constructions were up 5 points, while some of the forward positions advanced 10 points.

COAL

OUTPUT OF BITUMINOUS COAL held well over 8 million tons per week in December, and the month's total was comparable to that of a year ago. Totals for the entire year show 1938 about 23% below 1937. Consumers' stocks are reported as one day's supply less than in the previous month, this being partly due to a higher rate of consumption. Anthracite production went to the highest rate of the year in the first week of December and tapered off slightly over the balance of the month.

INDUSTRIAL CONSUMPTION AND heating requirements were in good volume, and purchases reflected this condition as well as some building up of stock piles. With union contracts expiring on April 1, a gradual accumulation of stocks is anticipated for the first quarter.

THE COAL PRICE LIST WAS UNCHANGED. The National Bituminous Coal Commission has ordered completion this month of the final steps in coordinating data necessary for determining minimum prices, but that determination still seems rather far off. More imminent is the expiration of labor contracts with the ending of the first quarter. There has been little open speculation regarding what the negotiations may develop, but buyers are covering moderately in advance.

COPPER

WORLD STOCKS OF COPPER CHANGED by only 174 tons in November, indicating a state of virtual balance between production and use. U. S. stocks were up by 2,189 tons, to 269,488. Foreign production was further curtailed 10 points in December, to 100% of standard, and leading American producers lowered operating schedules on January 1st. Mine stocks in this country are now equivalent to five months' deliveries.

COPPER SALES CONTINUED at the nominal rate of November, around 12,000 tons for the month. Activity in the industry tapered off toward the end of the year, but actual consumption of 50,000 to 60,000 tons will apparently be maintained.

THE PRICE OF 11¹/₄ CENTS was held through December, though in the early part of the month the situation was weak as foreign markets eased to 10.15. After the middle of the month a new steadiness appeared and the market tone was firm despite a low volume of trading. Copper scrap was up ¹/₈-cent at the end of the month, and a better London market supported the domestic schedule.

COTTON

THE FINAL ESTIMATE OF THE Crop Reporting Board predicted an out-turn of 12,008,000 bales, only slightly down from previous estimates, whereas a substantial drop had been expected. The referendum among cotton growers showed 84% favoring marketing limitations, sales quotas being confined to the amount of cotton grown on the 1939 acreage allotment.

DOMESTIC MILL CONSUMPTION of cotton was sharply up in November to 569,289 bales. In December, business was moderate for the first half month, then demand for gray goods suddenly expanded and continued in good volume to the end of the year, chiefly in print cloths, but broadening to include other items as well.

SPOT COTTON PRICES SAGGED on the crop estimate, recovered somewhat on the decision to continue restrictions, and showed a moderate decline for the month. Cloth prices were off in the first week of December, but strengthened with the buying spurt at mid-month, several items regaining the entire early loss while others were down ¹/₈ to ¹/₄ cent.

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Onliwon Towels and Tissue
The complete washroom service

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Good health, good will,
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Supply

IRON and STEEL

STEEL INGOT PRODUCTION dropped abruptly in December from 60.7% at the opening to 38.8% in the holiday week, but recovered immediately to 50.7% of capacity as the new year came in, a rise more prompt and decisive than had been expected in the trade. Largely motivated by continued good shipments, this may also indicate a move to replenish mill stocks in anticipation of expanding spring demand.

LUMBER

LUMBER OPERATIONS WERE seasonally light in December, but compare very favorably with the corresponding period of 1937 in practically every reporting area. Production was 58% and shipments 62% ahead of the previous year, and both shipments and new business exceeded output. Dealers' inventories are light.

NAVAL STORES

STOCKS OF TURPENTINE at southern markets showed practically no change during December. Rosin stocks were up about 2 1/2%. The Commodity Credit Corporation has taken steps to release some of its stocks to distributors, operating through a naval stores cooperative so as not to disturb the prevailing market.

PAPER

DECEMBER PRODUCTION of paper and paperboard was down slightly from the November rate—a normal seasonal development—but about 33% ahead of December 1937. Stocks of newsprint are large, both at the mills and in the hands of consumers, publishers holding six weeks' supply instead of the usual four weeks.

Demand

DEMAND FOR STEEL held up better than production in December, with prompt shipments the rule in view of generally light inventories, and a really brisk warehouse trade. Automotive buying was resumed immediately after the holiday, and railroad purchases—almost a negligible factor for many months—added substantial tonnage to the month's sales.



NEW ORDERS WERE FAIR in most classifications except northern hardwoods. A rapid resumption of demand is expected for replenishment of yard stocks following the inventory period, and estimates of a 30% gain in residential construction during 1939 are regarded as conservative.

DEMAND CONTINUED VERY light, sales being principally fill-in lots in small quantity. There was some inquiry and bidding under the market, but these proposals were generally declined.

THE CUSTOMARY SLACKENING of demand for papers was apparent in December, particularly in wholesalers' stock purchases. Kraft and sulphite bonds moved in good volume, demand for the latter showing continued improvement. Newsprint consumption in the 4th quarter was the best of the year, and demand is about normal, though checked by heavy stocks.

Market

THE ONLY DECEMBER price change in steel was a reduction of \$2 per ton on tin mill black plate early in the month, an adjustment that brought this item into line with other sheet prices. The schedule was reaffirmed without change for the first quarter, but is much stronger than a few weeks back. Deliveries at the low October prices expired with the end of the year, putting all trade on the basis of current quotations. Pig iron prices were also extended for another three months.

LUMBER PRICES REMAINED firm, and while the schedule did not advance materially, November's gains on softwoods were strongly held and seem to be well established. On several items of hardwoods a slight recession was noted.

TURPENTINE ADVANCED 2 3/4 cents per gallon in December, falling just short of recovering the November loss. Rosin prices were irregular. Common grades gained up to 35 cents per barrel, medium grades were down 2 1/2 to 5 cents, and fine grades gained 5 to 20 cents.

THE MARKET WAS generally firm, though keenly competitive on standard grades. Sulphite bonds and ledgers, No. 1 and No. 2, recovered strongly, about \$8 per ton. Chemical pulp, both bleached sulphite and kraft, was down, in a perfunctory market, as were the better grades of waste paper. New white rags advanced 25 cents per cwt.

52544B

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PETROLEUM

PRODUCTION OF CRUDE OIL was down in the first week of December, then increased substantially each succeeding week to a daily average output of more than 3,445,000 barrels. The Texas shutdowns have been reaffirmed for the first quarter of 1939, and there is a movement on foot to invoke some similar control in other producing areas, and also to include refining operations. Fuel oil stocks are down, runs to stills somewhat less, and gasoline storage higher.

RUBBER

WORLD STOCKS of crude rubber at the close of the year stood at slightly less than 600,000 tons, or about 40,000 tons below the figure of a year ago. The restriction program contemplated a reduction of 90,000 tons for the year, but this was offset by larger production in non-agreement countries as well as considerable overshipments that are to be made up in 1939. The situation is now in good balance, and stocks are not expected to become burdensome with consumption expanding. U. S. supplies are equivalent to six months' requirements at the current rate.

TIN

AN INCREASE OF 611 tons in December brought the world's visible supply of tin to 21,958 tons, an increase of 1,011 tons for the year. This relatively slight change is accepted as indicating the success of the International Committee's program of stabilization. World production was down 22% for the year, as compared with 1937, the decrease being accounted for entirely by signatory countries, as outside production was slightly higher. December deliveries to the U. S. were 3,400 tons, the smallest monthly total of the year.

ZINC

STOCKS OF ZINC ORE were sharply down to 9,300 tons at the end of the year, the lowest of the year, partly due to inventory policy for tax purposes. The threatened restriction of operations following the cut in import duties did not materialize; except for the natural slackening during the holiday week, production curtailment was orderly and entirely consistent with the year's record, which shows 7½% decline on a world basis. The backlog of unfilled orders was down to 40,252 tons, and consumers' stocks are believed to be light.

DEMAND FOR PETROLEUM products in December was strictly seasonal. Heating oils were moving in good volume, and industrial consumption was better. Gasoline sales lagged, but improved to some extent in the latter half of the month. Demand for lubricants was disappointing. Export inquiry for both gasoline and Diesel oil was active.



NOVEMBER USE OF crude rubber in the U. S. exceeded trade expectations and totalled 46,048 tons, 14% above October's good total, and December estimates are over 40,000 tons for the third successive month. At the half year mark, consumption was running 45% behind 1937, but the year as a whole shows less than 25% decline. Buying was spotty but generally active. Shipments of tires now exceed production, and an increase of 15% in the tire business is anticipated, chiefly for new equipment.

WORLD APPARENT TIN consumption in 1938 was about 20% less than in 1937. The three principal consuming countries—United States, United Kingdom, and U. S. S. R.—used from 26 to 42% less, while Germany, Italy, Poland, Sweden, Switzerland and Japan took from 15 to 60% more. Demand was fair during early December, followed by two unusually active weeks as the year came to a close. Tin plate operations are sharply up, and may go to 70% for the first quarter of 1939.



DEMAND WAS MODERATELY well sustained in December, with no outstanding feature. In two weeks, sales were in excess of 3,000 tons. The most encouraging note was a continued request for prompt shipment, and deliveries were in good volume. Die casters were taking good quantities of metal, and demand from the automotive field expanded. Galvanized sheet operations sagged from 60% to 57% during the month.

THE ENTIRE PETROLEUM price structure was weak and uncertain in the early part of December, with many reports of price slashing. The situation firmed somewhat in the second half. No. 6 oil and Bunker C fuel oil were the first to advance. A general mark-up of fuel oils developed in the third week. The tank car price on gasoline was off ¼-cent at the end of the month, but seemed firm at the new level. Retail prices of gasoline in 50 cities were down to the lowest average price of the year. Kerosene was up ⅛-cent. Crude prices were changed only by the dropping of premium grades.

RUBBER PRICES TRENDED generally upward in December. After some faltering in the opening week, which saw spot quotations drop to 15⅞ cents, a steady, gradual advance set in, supported by good statistics on consumption. In the closing week of the month this rise carried the market up to 16⅞, and the month ended firmly at 16⅞. This is considerably under the peak November price, but represents a net gain of ¼-cent for the month, and the market tone reflects the improved statistical position of the commodity.

FLUCTUATIONS IN SPOT TIN prices were relatively narrow during December, within the range of 45.80 to 46.70 cents, New York, and the net change for the month was negligible. The tone of the market was stronger than for some time past, and firmed notably in the advance of the closing week. Futures advanced decisively, and were firmly quoted at ½-cent above the corresponding positions a month earlier.

THE PRICE OF 4½ cents per pound, East St. Louis, was firmly held throughout the month and seems well established unless there should be extensive dumping of foreign surplus stocks in this country after the first of the year, when tariff reductions become effective. The sharp drop to this figure, from 5.05 cents, in November is generally attributed to the tariff action, but this price is still substantially better than the 4 to 4.25 cent market of the second quarter. Some sales are being made on the average price basis. Ore prices were adjusted downward in accordance with the new schedule, and were at \$28 to \$29 at the turn of the year.

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